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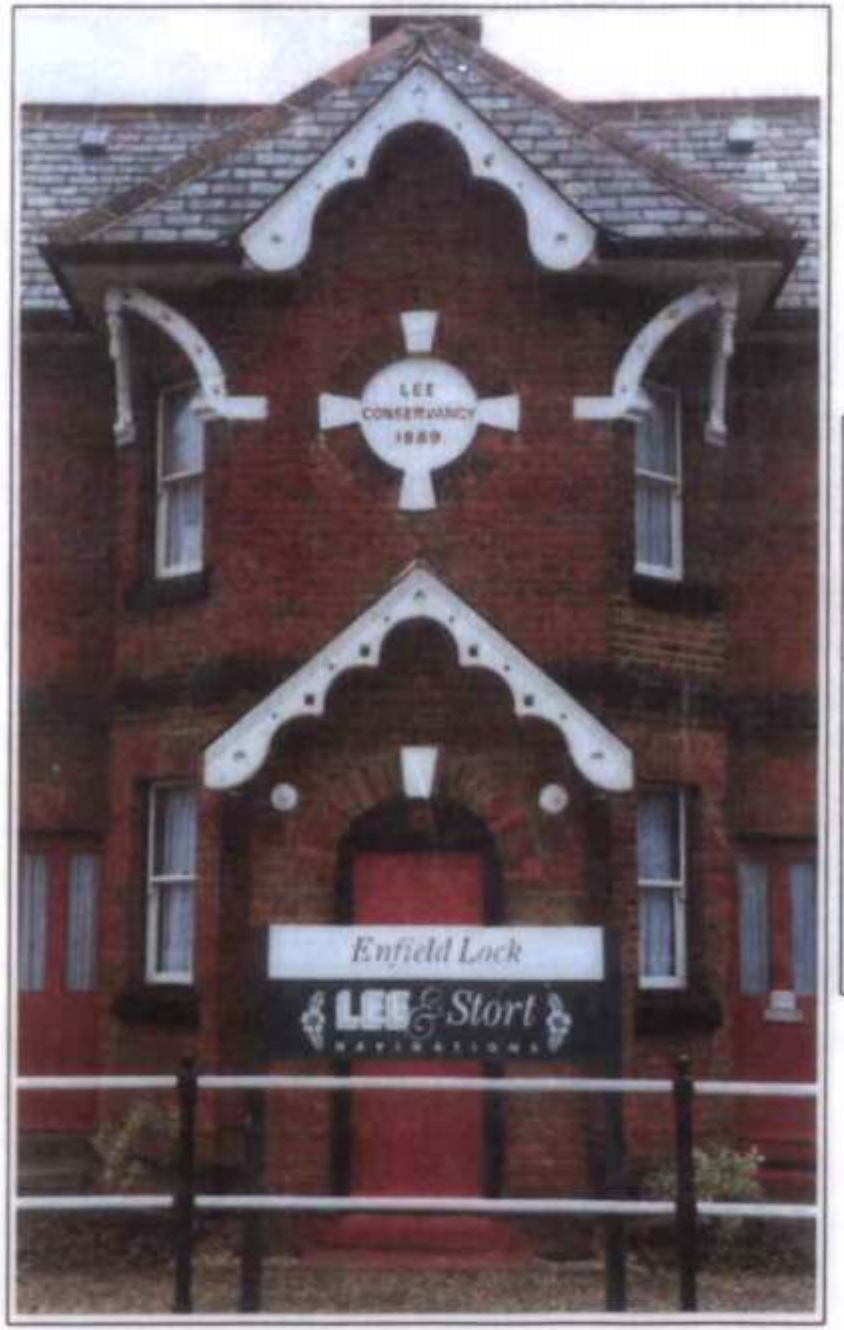

Lee Navigation
London Borough of Enfield
Corridor Study

March 2000

British Waterways

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1.1 Background

In 1998, a partnership was established to explore the opportunities for the creation of a strategic vision for the development and enhancement of one of the Borough of Enfield's major assets, the River Lee Navigation.

The river navigation and towing path are considered to be under-utilised in terms of use by the local communities, visitors and waterside businesses despite its recognition by the Partnership in terms of their importance:

- for water-related recreation and leisure activities (pleasure boating, rowing, canoeing, angling, walking and cycling),
- as historical, archaeological, environmental and ecological resource;
- as an amenity as well as an educational opportunity for the community,
- in providing a focus for environmental improvement;
- as a catalyst for regeneration and inward investment,
- in providing a setting which attracts added value and commercial betterment.

1.2 The Partnership

The partnership group comprises the following organisations:

- **British Waterways;**
- **Environment Agency;**
- **Lee Valley Park Regional Authority;**
- **London Borough of Enfield; and**
- **Thames Water Property.**

Hereafter the above organisations are known as the "Partners"

All the Partners are committed to:

- maximising the potential of the waterways for development, regeneration, recreation and tourism;
- protecting and enhancing the waterway environment as a valuable local resource

Sustainable development principles underpin these objectives, together with commitments to promote access for all, high quality design and the need to provide a safe and secure environment for all visitors to the waterway.

1.3 Purpose of Study

Waterway Environment Services was commissioned by the Partners to undertake a study that would illustrate a range of opportunities for development, enhancement and conservation that could be used to target investment and form the basis of future funding bids

It was the intention that the study would.

- raise the profile of the navigation within the Borough of Enfield
- increase use by the business sector, local communities and visitors of the navigation and towing path
- promote the use of the waterspace for leisure activities and navigation
- improve the appearance and accessibility of the navigation
- safeguard the long-term future of areas of significant landscape, heritage, ecological and nature conservation value.

1.4 Study Area

The study area comprises the 9.9 km (6.15 mile) corridor and immediate confines of the River Lee Navigation, forming an integral component of the Lee Valley Regional Park

The elevated M25 motorway defines the northern boundary of the study area. The southern boundary extends slightly beyond the elevated North Circular Road to Chalk Bridge.

The reservoir embankments form the eastern boundary whilst established industrial premises backing onto the navigation form the western boundary which enclose the visual envelope from the River Lee Navigation However, the area of influence is much wider when assessing the connections and linkages to surrounding residential areas

Two administrative areas are covered by the study, namely London Boroughs of Enfield and Waltham Forest

However, although the study extended into the western corner of London Borough of Waltham Forest's administrative area, it was not within the scope of the brief to discuss detailed proposals with officers from this Council Separate discussions will be required to pursue such proposals in the future with London Borough of Waltham Forest

1.5 Study Approach

Research for the study has been undertaken in a number of ways.

- A review of published strategies, research material and planning policy documents supplied by the partnership group to define the planning framework in which any proposals must comply and identify the opportunities and constraints for key development sites within the corridor as detailed in Chapter 2 A full list of the documents reviewed appears in Appendix A.
- A site survey and analysis of the study area to define corridor character, assessment of current recreational uses, existing linkages and key connections as detailed in Chapter 3 and Appendices B and C.

The base line information was then analysed to determine the key areas or themes as well as opportunities for environmental improvements and water-related recreational opportunities within the corridor.

Case studies and sketch schemes have been prepared for a number of sites to illustrate a range of planning, development and environmental opportunities These can form the basis for future more detailed feasibility and design work

All partner organisations were given the opportunity to contribute ideas to the study and comment on the case studies.

1.6 Future Use and Status of the Report

It is not intended that this report duplicates existing planning frameworks and action programmes of the different partner organisations but complements and influences them. While it is a non-statutory document it is hoped that the report will:

- influence policies and proposals as part of London Boroughs of Enfield and Waltham Forest Local Plan Reviews, including policies and proposals to promote the potential of the waterways for regeneration, recreation and tourism, balanced with policies to protect and enhance the existing resource and its environment;
- be used as a tool to guide future planning application submissions and should be a material consideration in the determination of future applications within the waterway corridor. It is hoped that London Borough of Enfield would consider for adoption as supplementary planning guidance the development and design guidelines contained in Chapter 6. These guidelines are intended to help and assist developers and their design teams, existing landowners and occupiers, statutory undertakers and public utilities, in preparing development and improvement schemes;
- be used to help target strategic priorities and plan future investment and improvements along the waterway corridor that should feed into various investment and external funding strategies.

UDP

* Conflict with existing London Canals Committee Developers Guidelines (LBE)

*2 Materialness of document is not an issue exclusively for canal's determination. Public consultation & ensuing responses will increase "materiality" significantly (LBE).

∴ Study should not be considered as SPG (LBE).

ENFIELD LB
Reproduced from the 1:1250 Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright AL511271A/0001

Location Map

* Speak to Mike re: use as SPG/ material consideration in planning application

2.1 Introduction

This chapter identifies the key themes, issues and potential conflicts within the following policy and strategy documents. Such information forms the policy framework for this study. It includes:

- relevant national and regional planning guidance including guidance on provisional Local Transport Plans;
- London Borough of Enfield Unitary Development Plan Written Statement (adopted in 1994);
- London Borough of Waltham Forest Unitary Development Plan Written Statement (adopted 1996);
- Lee Valley Regional Park Plan (approved 1998);
- relevant policies, strategies and guidelines of the partner organisations.

The Government's Planning Guidance Notes set out the national planning framework within which the London Boroughs are required to draw up their development plans and to determine individual applications. Regional Planning Guidance is intended to add a regional dimension to existing national policy statements, to guide the pattern of development in the Region and to provide a framework for the updating of structure plans within the Region. The Unitary Development Plan sets out the key, strategic policies for the borough and provides the framework for specific sites to guide development within the London Borough of Enfield. London Borough of Enfield's Unitary Development Plan was formally adopted in March 1994 but has since been the subject of review. A draft public consultation document was published in June 1997 and it is anticipated a revision document will be published in 1999/2000.

The study area also falls within the administrative area of the London Borough of Waltham Forest whose Unitary Development Plan was adopted in 1996. These two Unitary Development Plans and the Lee Valley Regional Park Plan form the planning framework for the corridor. The planning framework for the study area is complicated as a result of the recent local government boundary changes resulting in out of date coverage. However, this situation will be rectified, as new Plans are prepared.

The waterway corridor within the Borough of Enfield is also covered by supplementary guidance ranging from specific site based briefs to subject guidance eg Standards for Canalside Development produced by the London Canals Committee in October 1993. London Borough of Enfield approved the use of these development control guidelines as supplementary guidance in January 1994.

Within these framework documents there is a lack of focus on the water environment with no clear existing guidance on how the study corridor could be developed and its potential future role in London Boroughs of Enfield and Waltham. This study is therefore seeking to provide this framework and highlight potentially conflicting issues which could impact upon the development of the waterway corridor as a tourism, leisure and recreation resource and catalyst for urban regeneration (see Chapter 4). It is hoped that London Borough of Enfield will consider the waterside development and design guidelines contained in Chapter 6 for adoption as supplementary planning guidance.

In general the environmental and recreational value of land within the corridor is acknowledged through a series of general policies. Strong encouragement is given to improving access to and within the area and to introducing additional leisure and recreational facilities.

The watercourses through the area are diverse and include both natural and constructed waterways in the form of the River Lee and River Lee Navigation, together with Flood Relief Channels and major reservoirs. While this has been reflected comprehensively in the general planning policies, there are few site-specific policies which detail waterway regeneration schemes.

While there are areas of historic importance, much of the Study area abuts established and operational industrial development and indeed the continued use of the River for commercial purposes is encouraged.

It is considered that the planning policies do, therefore, strike a fair balance between the need to protect the area for nature conservation, recreation and leisure purposes while acknowledging that commercial and industrial development should continue to take place.

Appendix A includes a brief summary of all the above policy and strategy documents from a waterway perspective.

2.2 Key Strategic Themes

Three key themes have emerged from this policy review:

- **Promotion of Sustainable Development;**
- **Maximising the Potential of Inland Waterways;**
- **Role of Tourism and Water Recreation.**

2.2.1 Promotion of Sustainable Development

Relevant national and regional planning guidance as well as the statutory development plans is based on sustainable development objectives that aim to create a more sustainable pattern of development and improve the quality of life for residents. Documents focus and emphasise the importance of the following principles in contributing to the achievement of sustainable development and of integrated transport and land use planning:

- **Urban regeneration and the re-use of previously developed urban land,** particularly for residential use. Opportunities to utilise tourism as an element in urban regeneration and to the utilisation of the historic fabric of an area as a focus for regeneration are highlighted;
- **Protection of green belts.** There is a general presumption against inappropriate development within green belts in order to assist in safeguarding the countryside from encroachment and to assist in urban regeneration by encouraging the recycling of derelict and other urban land;
- **Improvement of the quality of the built environment.** Concentrating development within urban areas must be supported by improvements to the quality of the built environment through protection of open land that is important to the form and character of the built environment from development and ensuring additional open spaces are reserved and provided in new development. High quality design for new development and refurbishment of existing buildings will also contribute to the improvement of the quality of the built environment;

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P. 3–6

- **Protection of landscape character and open spaces.** Open space with recreational and amenity value in urban areas and urban fringe areas should be regarded not only as an amenity but also as a contribution to the conservation of the natural and built heritage of an area,
- **The importance of Partnership.** To achieve sustainable regeneration, effective partnerships of the public and private sectors and local voluntary organisations together with community participation are vital Regeneration priorities will be most effective if they are shared Partnership working with key regeneration agencies to secure investment in the "Priority Areas for Regeneration" within the waterway corridor and the Borough needs to continue and opportunities provided by appropriate external funding sources need to be maximised,
- **Conservation of the historic, natural and water environment.** Management of built heritage and natural landscape should:
  - maintain and enhance their historical, ecological and landscape value;
  - maximise access for education and recreation;
  - protect them from detrimental visitor impact and insensitive change and exploitation;

  New development, industry and leisure activities all place pressure on the quality and quantity of water resources. The Lee Valley is an important landscape feature, green and open space, important for wildlife habitats and recreational activities and is vital for the proper functioning of land drainage;
- **Fully integrated transport systems, promoting alternative sustainable modes of transport to road transport and providing "Access for All".** There is a need to ensure development takes account of the access needs of all people including people with disabilities. British Waterways is working in partnership with Field Fare Trust to develop new initiatives and have produced a guidance document entitled "Waterways Access for All" which applies waterways access for all principles in the context of good design practice, heritage management and environmental code of practice appraisals;
- **Protecting, promoting, enhancing local distinctiveness;**
- **Promotion of smaller mixed use schemes as part of Comprehensive Area Regeneration Projects of mixed use development** as they bring vitality, create a "sense of place" and encourage patterns of sustainable development Mixed use developments can, and should, be catalysts for new major urban regeneration initiatives and for achieving sustainable development. Successful mixed use developments need to:
  - provide a balanced mix of uses;
  - reduce dependency on private motor cars by creating environments in which it is safe and easy to walk, cycle, and travel by public transport;
  - create attractive linked public spaces with active edges which generate natural surveillance;
  - provide strong linkages and connections within the scheme and to places beyond it, and
  - create character and identity through the design of spaces, streets and buildings as well as the relationship/interface between them to achieve a "sense of place" and promote community interaction.
- **Importance of planning and designing out crime.** British Waterways and the London Metropolitan Police are launching an advisory document entitled "Under Lock & Quay' A Guide to Waterside Development and Improvement" in April 2000 which will provide guidance on the most appropriate and effective ways of dealing with crime prevention in new and existing waterside developments.

2.2.2 Maximising the Potential of Inland Waterways

Government's Recently Announced Plans and Pledges for Inland Waterways

Inland waterways can contribute to the achievement of a sustainable pattern of development. Inland waterways represent an integral part of the nation's natural and industrial heritage, linking historic buildings and structures with the wider landscape and forming key strategic wildlife corridors. Inland waterways help to stimulate regional and local economies by acting as a catalyst for regeneration and inward investment and are playing an increasingly important role in the tourism industry. Furthermore, inland waterways and reservoirs have a vital social role to play through the provision of publicly accessible areas for informal recreation and educational purposes in both urban and rural locations.

The Deputy Prime Minister, John Prescott, recently expressed the view that inland waterways

> *"have enormous potential not only for contributing to an integrated transport system, but also as a catalyst for urban and rural regeneration and for stimulating leisure and tourism"* and *"we need to ensure that British Waterways is best placed to unlock the potential of the waterways"*

In the Government's recent paper "Unlocking the potential ... A New Future for British Waterways" inland waterways are seen as a valuable part of the national heritage. The Government is committed to ensuring that they are recognised as a valuable public asset and that their full potential is secured.

Relevant national planning guidance, the White Paper on Integrated Transport (July 1998) and other DETR publications state that.

- the Government will encourage greater use of inland waterways in the movement of freight (where this is practicable and economic) and that development plans will be expected to consider the opportunities for new development served by waterborne transport;
- the importance of the role inland waterways have to play in providing passenger transport, leisure and tourism opportunities and in providing a catalyst for urban and rural regeneration;
- there is a widespread shortage of mooring facilities for boats on inland waterways;
- linear open spaces such as inland waterways provide opportunities for informal recreation and water recreation;
- inland waterways are important for their heritage and environmental value and for water supply and flood defence;

- Due to their linear and continuous structure, waterway corridors function as ecological stepping stones which are essential for migration, dispersal and genetic exchange.

DETR has identified the potential of waterways and towing paths for cycling, walking and public transport (eg waterbuses) in contributing to widening travel choices. The DETR encourages Local Authorities to develop strategies to:

- integrate waterways with other forms of transport;
- use waterways for freight transfer;
- promote access to and greater use of inland waterways;
- ensure effective integration with leisure, recreation, tourism and conservation strategies.

2.2.3 Tourism and Water Recreation

The current tourism strategies highlight the following trends:

- **Holiday Taking Patterns:** There is a trend towards taking more shorter holidays, rather than one long one. Other trends show a move towards independent holidays and activity holidays.
- **Concern for the Environment:** As people become more concerned about conservation of the environment, the opportunities for green and sustainable tourism increase.
- **Transport:** Car ownership is still rising and provides the main mode of transport for tourism. The increase in concern for the environment, however, may help the lobby for canal restoration projects and resurgence in demand of navigable waterways for leisure purposes.

Tourism and leisure developments generate large numbers of trips and should be located in accordance with the principles of sustainable development. Provision for new facilities intended to attract significant tourist visits should be made only in locations where it can be shown that:

- infrastructure and environmental capacity can satisfactorily accommodate visitor impacts;
- amenities of nearby residents and businesses can be protected; and
- a range of transport modes will be available.

It is recognised that sensitive and well planned tourism development can play a key role in assisting economic development and in ensuring environmental considerations are respected.

The potential for further tourist and recreational development based on the extensive inland waterway network in the London Region is identified, though this, as with other developments, should always be reconciled with transport and environmental considerations. The study area has great potential for the development of recreation - ranging from bird watching and walking to water based activities, such as canoeing and pleasure boating

The strategic review of the policy and strategy documents reveal that there is a need to:

- safeguard existing recreation facilities, particularly open space;
- improve and enhance the range of recreation and entertainment facilities;
- support the development of the waterway network and associated facilities as key recreation, tourism and public transport resources;
- encourage greater public use of waterways, towing path and the water side;
- encourage use of the waterways for public transport and development of related recreation facilities in the vicinity of the waterways network;
- ensure that adequate land and water resources are allocated both for organised sport and for informal recreation;
- ensure that any waterway developments respect and maintain the biodiversity of the network as wildlife corridors.

Thoughtful development and careful management are essential if different types of water based recreational use of existing waterways are to share water space successfully.

* Lodn Borough of Enfield are retaining the development of the Borough, a established business location, exploiting its beficial location between the M25 & A10 & (Enfield Business Quarter).

2.3 Key Corridor Themes

The key themes from the review, with specific relevance to the study corridor are as follows:

- London Borough of Enfield are marketing the development of the Borough as a new business location to exploit the new opportunities stimulated by the construction of the Channel Tunnel Rail Link as well as an attractive environment to reside and work and providing opportunities for formal and informal leisure pursuits; *
- Importance of the Lee Navigation as a key strategic and linear wildlife green corridor as well as a water resource. The natural environment needs to be safeguarded from development and recreational uses / pressures as well as the need for habitat creation and enhancement. wholesale improvements to water quality along the length of the corridor has also been identified as a priority;
- The Lee Navigation has a vital social role to play through the provision of publicly accessible areas for informal recreation and educational purposes. The Lee Navigation is an important recreational route but also accommodates many types of informal leisure pursuits and organised sporting activities, such as use of the towing path and associated waterside land for recreational cycling, jogging, walking, bird watching and use of navigation for rowing, canoeing, angling and boating. There is recognition of the under-utilisation of the Lee Navigation as a recreational and tourism resource and the need to encourage its use as a means of improving quality of life;
- Adjacent to the Lee Navigation on the offside is a well-established business district within the Borough. There is recognition of widespread environmental degradation along the navigation and the need to ensure future redevelopment of waterside brownfield sites positively address the navigation and include appropriate boundary treatments;
- Promoting tourism in the study area by developing and marketing a clear theme and identity for the Navigation, linked with the Lee Valley Regional Park;
- Improvement and management of boundaries and interfaces with the waterway are seen as a priority to improve the image and appearance of the waterway;

- The limited number of access points to the navigation from the existing residential and industrial areas within the Borough. The profile and environmental quality of the existing access points are poor and require enhancement,
- Recognition of the potential of the navigation as a sustainable transport route for waterborne freight and the potential of the towing path for cycling and walking.

2.4 Key Issues and Potential Conflicts

There are four key issues and potential conflicts that emerged from this policy review that set the framework for this study. Within the concept of sustainable development there is the need to reconcile and integrate conservation (in its widest sense) with·

- the economic development and regeneration interests within the waterway corridor,
- tourism development and recreational interests within the waterway corridor,
- management regimes and priorities within the waterway corridor.

Within the concept of sustainable development, the fourth key issue and potential conflict is the need to reconcile waterborne freight with pleasure boating and other water based recreational interests within the waterway corridor.

In conclusion, there is a need to maximise the potential of the River Lee Navigation corridor for development, regeneration, water-related recreation and tourism opportunities balanced with the need to protect the existing resource and it's environment

The Unitary Development Plan review process provides an excellent opportunity to effectively integrate the River Lee Navigation corridor with regeneration, transport, leisure, recreation, tourism and conservation strategies. This could be achieved by designating the study area as an "action area" for comprehensive treatment by development, redevelopment or improvement within the Unitary Development Plan, which is currently under review.

3.1 Existing Land Use Pattern

The Enfield corridor study area runs north to south along the boundary between the London Boroughs of Enfield and Waltham Forest. The greater part of the study area lies within Enfield and includes part of the Lee Valley Regional Park.

To either side of the corridor a number of major transport routes link greater and inner London. These include the A1 and the A11 to the west, with the A112 to the east. To the north, these trunk roads lead to the M25.

Much of the land to the east and north of the reservoirs is open in nature and is used as grazing pasture within the Lee Valley Park. Land to the west is urban in character and predominantly involves large industrial areas and a major water treatment and sewage works. This unique mix of land uses is reflective of the historical development of the Lee Valley and the spread of the London urban area.

3.1.1 Industrial

The River Lee has traditionally been used for navigation, attracting industry along its course. Improvements in transport and the decline of the manufacturing industry generally left the Lee Valley with a legacy of derelict, under-used and poor quality sites along the river frontage, the Enfield corridor being no exception.

Industry is located almost wholly on the offside of the corridor, involving varying scales of activity from small individual units to medium and large scale manufacturing and distribution sites. Historically a mismatch of sites and poorly accessed, recent improvements have seen general environmental and image upgrades, creating the Brimsdown and Meridian Business Park areas. The individual sites however continue to vary in quality reflecting the mix of older and recently redeveloped sites. Overwhelmingly, those sites fronting onto the navigation present a poor quality treatment of their riverside location.

To the south of the North Circular Road industrial uses are located on both the offside and towing path side. Hastingwood industrial estate on the towing path side consists of generally poor quality and small scale premises. On the offside of the navigation is the Ravenside Retail area and the Glover Drive development site. Here an old industrial area has been partially redeveloped for retail use, whilst the remaining area is primarily underused.

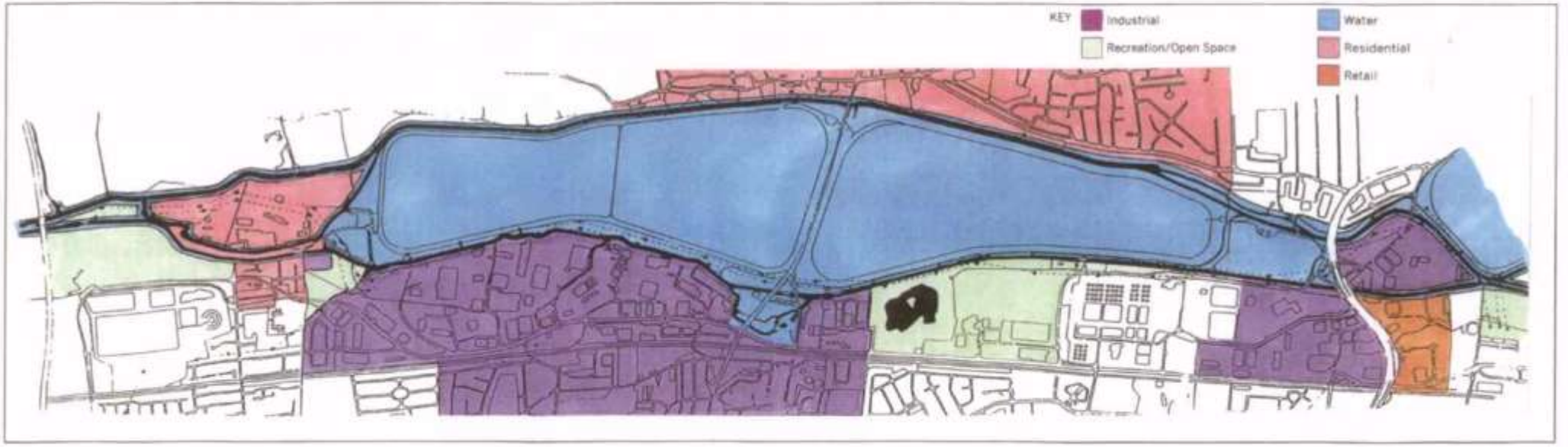
It is estimated that approximately 20% of the Study area is involved in industrial and retail uses.

3.1.2 Water

Growing pressure from London for drinking water resulted in the establishment of the King George V and William Girling Reservoirs and associated water courses in the early 1900s. These now dominate the study corridor on the towing path side stretching north to south along its length, with the Banbury Reservoir falling just outside the South-Eastern boundary of the corridor. The River Lee Navigation, River Lee the and the associated flood channels form part of the waterway network within the study area. Tottenham Marshes are just outside the corridor, lying on the southern boundary. It is estimated water and associated environments cover about 65% of the study area. There is also a major sewage treatment works located on the offside, north of the North Circular Road.

3.1.3 Recreation

The Lee Valley Park was established in 1966 in response to the increasing scarcity of land available for recreation and sport within London. Its designation covers a large area of the corridor and has therefore influenced its development over recent years, retaining land for recreation and leisure pursuits, which may have otherwise been developed for other uses.



3.2 Recent Development Activity and Improvements

The corridor has witnessed development activity on a number of riverside sites on the offside as well as its northern and southernmost sections. A series of development briefs and feasibility studies have been produced by London Borough of Enfield for the larger riverside development sites and for the well established industrial areas.

Overall the corridor has been subject to considerable restructuring with the upgrading of existing facilities and the redevelopment of old sites. Many sites in the Brimsdown and Meridian Business Park areas still require considerable investment and environmental improvements, however it is clear that the initiative, and commmitment by existing businesses and London Borough of Enfield, exists to improve the overall environment and that with careful management and development control a total upgrade should be achieved in the future.

Recent Planning Applications and Developments

The following recent applications and developments give an indication for the type and level of activity experienced in the corridor.

3.2.1 North of Enfield Yard

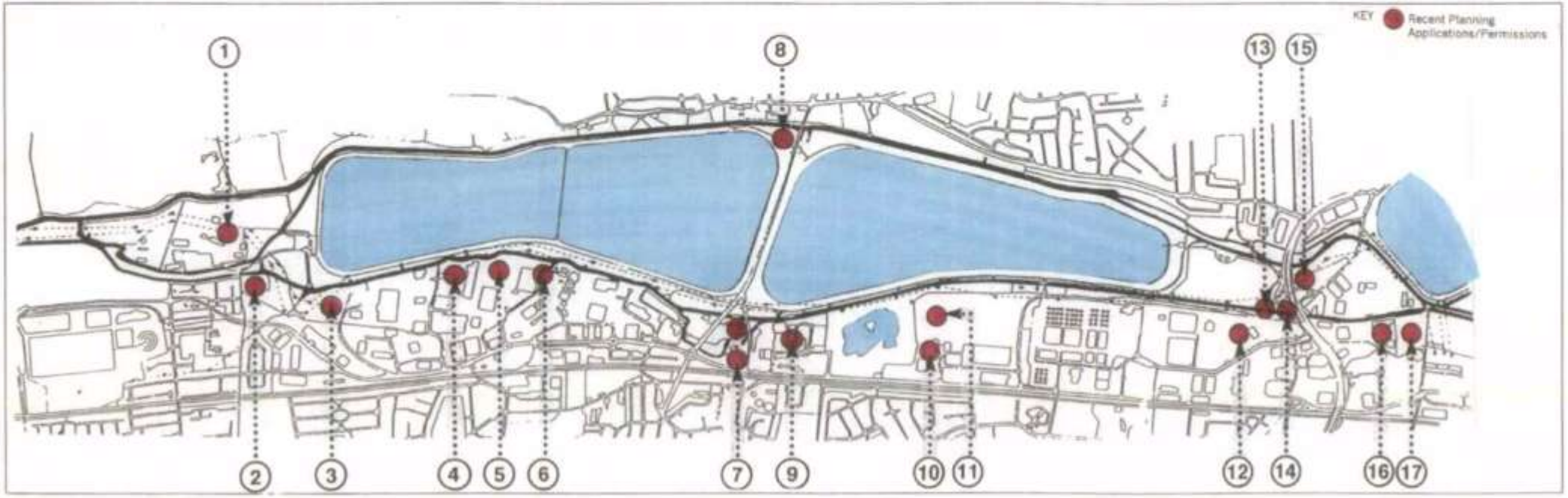
1. Enfield Island (Royal Small Arms Factory)

One of the largest recent developments has been on the Royal Small Arms Factory site located on the north-eastern edge of the corridor. ~~Fairfield Homes~~* obtained planning permission to develop this 35 hectare site primarily for residential use with some aspects of retail use based around an artificial water environment within the historic core of the site. The site is being developed in phases with the majority of the residential element completed.

* FAIRVIEW HOMES PLC .

The development will be set within extensive landscaping that will buffer the effect of the development from the Lee Valley Park. This will include the creation of an ecological park to the north of the site, aimed at enhancing and creating wildlife habitats in the area. This will be an element of a north south green link running through the site to the Lee Navigation.

Two new access points across the Lee Navigation have been formed to access the site. One leading off Ordnance Road forms the main vehicular access to the site and is a substantial bridge structure which combines with the existing water tower to form an important and impressive gateway into the site. There is a further access to the south of the centre of the site which leads into the waterspace and retail centre of the site.



LANDSCAPING AT BRIMSDOWN POWER STATION

The original landscaping scheme suggested by LBE would have enhanced the area. However, the C.S steering group rejected the scheme eventually because of the footpath. Due to the delay & lack of agreement between Parties, LBE lost the opportunity to get the most from the developers (LBE).

2. Enfield Yard

The site is a British Waterways maintenance yard much of which has become surplus to requirements. The redevelopment and upgrade of the site has received planning permission and is subject to KONVER funding. It is envisaged that the site will be a mix of existing waterway use, residential development and small scale business use. There will also be an element of refurbishment of listed buildings.

3.2.2 Brimsdown Business Park

This area has a mix of new and well established industrial uses, ranging from a new power station, to small individual industrial units. The area has also been subject to area-wide improvements including access, signage and image upgrading, bringing together formerly unrelated sites under the banner of Brimsdown Business Park.

3. Brimsdown Power Station, Mollison Avenue, Enfield

The site is located within Brimsdown Business Park which is primarily a mix of small and large industrial units. The development by the Enfield Energy Centre sees the establishment of a combined cycle gas turbine electricity generating station, details of which gained consent in 1997 and 1998. The Station is currently under construction.

In order to mitigate the impact of the power station a number of measures were identified, including landscaping and tree planting on the eastern edge of the site to screen activity. Whilst attention was paid to the nearby Reservoirs due to their SSSI designation, little mention was made to the Lee Navigation which borders the site.

The Power Station structure is set back slightly from the navigation, the northern part of the site having staff facilities, parking and office facilities situated closest to the navigation. However there will be considerable activity along side the navigation during the construction phase, with an access road running along the southern boundary of the site with. It is not clear how this area will be treated on completion and it appears that part of the site (2 acres) is being marketed as a separate development opportunity.

4. Delta Site

A significant site in the Brimsdown area is the 22.1 hectare Delta Site. The site occupies a prominent riverside location with the Lee Navigation and the Lee Valley Park on its eastern boundary. The site is subject to a development brief prepared in 1997 which identified general industrial, storage or distribution uses for the site, as well as various sources of funding available.

The site is currently subject to a planning application for office and industrial/distribution uses and includes a riverside walk proposal along the side of the navigation and linking into a cycle/walkway along the edge of Millmarsh Lane and out towards Walcott Road.

5. Kings Park

An area of recent development activity is the Kings Park site which has seen the establishment of the Macro retail building with significant associated parking provision. A large distribution plant is also located in the Park and the area generally has been subject to environmental improvements.

6. Mossops Creek Park

Associated with the development of Kings Park was the creation of Mossops Creek Park which follows the line of Mossops Creek from Stockingswater Lane to the Lee Navigation. This has seen the retention of the natural creekside environment and the establishment of a crushed stone walkway with seating areas, which continues north along the navigation fronting the distribution depot coming to an abrupt halt at the Macro site.

Associated with this Riverside walk is the proposed Mossops Creek Bridge which spans the Lee Navigation and is part of the Council's ongoing initiative to open up the Lee Navigation to informal recreational use. The bridge received consent early on in 1999.

3.2.3 Meridian Business Park

Located in the centre west of the corridor is the Meridian Business Park. This commercial area has been subject to a regeneration strategy produced for the Council in 1997. The location of the Business Park (a conglomeration of three separate industrial estates) plus the associated green areas surrounding has been identified as a regional opportunity, located as it is at the cross roads of the Upper Lee Valley. However, due to a number of issues, including legibility, image and ease of movement within and to and from the area, the area was failing to fulfil its potential.

Recent improvements and developments within the area have sought or been guided within the framework of principles and aims identified in the Strategy. This has included a branding scheme to improve the image of the area as well as gateway improvements, creating a more cohesive feel to the area.

The Meridian area generally has been subject to numerous applications of relatively small scale dealing with improvements to the industrial units in the area. There have also been larger developments that have generally assisted in the environmental upgrade of the area. A number of these have been in the Ponders End area.

7. Ponders End Area

The Navigation Inn

This area of Ponders End has seen the establishment of the Navigation Inn, involving the re-use of a listed historic pumping station with significant associated parking. The development provides a built landmark for the area and provides an interesting draw along the navigation.

Columbia Wharf

This area has been the subject of a number of registered applications (TP98/0128) relating to a hotel development at Columbia Wharf which at present have not been implemented.

Wright's Flour Mills, Wharf Road

Listed building and planning consent were granted for the erection of a part 3 storey/part 4 storey warehouse and packing unit within the listed Flour Mill complex.

The site is immediately adjacent to Ponders End Meadows and the development was subject to a condition detailing the need for a landscape management plan to ensure the protection and enhancement of the river corridor, in line with the character of the conservation area.

3.2.4 Reservoirs and Watercourses

The Reservoirs and associated watercourses have been subject to numerous proposals over the past few years involving flood relief works and both water and vegetation management.

8. King George Sailing Club

This recreational development already exists next to the King George V Reservoir, Lee Valley Road. It is however subject to temporary consent, last granted in October 1998 (TP/97/0961) for continued use of the site as a sailing base with a single storey building as club house.

3.2.5 Land South of Ponders End

9. Land adjoining Ford Motor Company, Morson Road

This was for the construction of a new manufacturing facility and involved pilling of the Lee Valley Navigation banks and realignment. ~~Granted consent 8/9/97, unfortunately the opportunity to improve the frontage of the site onto the navigation was not taken and the site now presents an intrusive feature onto the waterfront.~~

10. Lee Valley Leisure Centre

An area of activity in the last few years has been around the Lee Valley Leisure Centre which has seen a concentration of improved formal recreational facilities revolving around sport, cinema, and restaurants. The quality of design for these developments has been high, creating a recognisable feature in a primarily industrial area. There have been moves to increase the level of facilities here with an application in 1998 to extend the cinema. This was later withdrawn.

11. Picketts Lane Golf Course

The area adjoining the Leisure Centre has also been subject to environmental works and upgrade of the golf facilities and fairway (application number TP96/0082).

12. Edmonton Waste Incinerator

To the north of the North Circular, the land opens up to the Lee Valley Park with the Edmonton/NLWA incinerator dominating the western side of the navigation. The Incinerator has been subject to a number of applications, most recently TP95/0656 and TP97/0219 which dealt with amongst other things the NLWA Refuse incineration plant and was for the erection of a building for processing and recycling of municipal green waste. TP95/0656 was granted permission on 22/9/98.

13. Edmonton Sea Cadets HQ

North of the North Circular and lying between the Lee Navigation and the Incinerator Plant on a narrow strip of land is the Edmonton Sea Cadets HQ, at Deephams Wharf, Angel Road. The developed is permitted on a temporary permission which last received permission in October 1997 for the retention of a single storey building on the Site for a further 5 years. The site is leased from NLWA until 2017.

3.2.6 North Circular Area

The Ravenside Retail Estate is situated on the southernmost tip of the corridor and has been subject to recent large scale development, including a Tesco's outlet, a MacDonalds, a Mothercare and possibly an Ikea development. The site continues to be developed and when completed will provide a much needed impetus to further investment in the area and along the waterfront.

14. North Circular Road Environs

The area immediately surrounding the North Circular Road has been subject to recent upgrade with the provision of pedestrian and cycle links underneath the flyover and general road improvements. This has relieved traffic congestion in the area, allowing local traffic access and enabling through traffic to flow more smoothly. It also allows unimpeded pedestrian access from the Lee Valley Park through to the Hastingwood Trading Estate and on toward Tottenham Marshes.

15. Timber Yard, Ash Wharf, Edmonton

Application TP/95/0954 was granted on 23/5/96 for a timber yard at Edmonton Wharf, Lee Valley Trading Estate. This involved the widening of the existing towpath along western boundary of the site. Application TP98/1106 was granted on the 23/11/98 was for a single story storage building on this site.

16. BOC Site, Aragon Road

An application, TP/97/0486, for this site deals with an extension to the existing building to accommodate changes in the production line.

17. BG PLC Site

This site is currently used as a concrete crushing and transfer station, whose operators applied early 1999 for renewal of temporary permission (TP/92/0172) to continue to use the site in this manner.

3.3 Statutory and Local Designations

3.3.1 Land Use Planning Designations

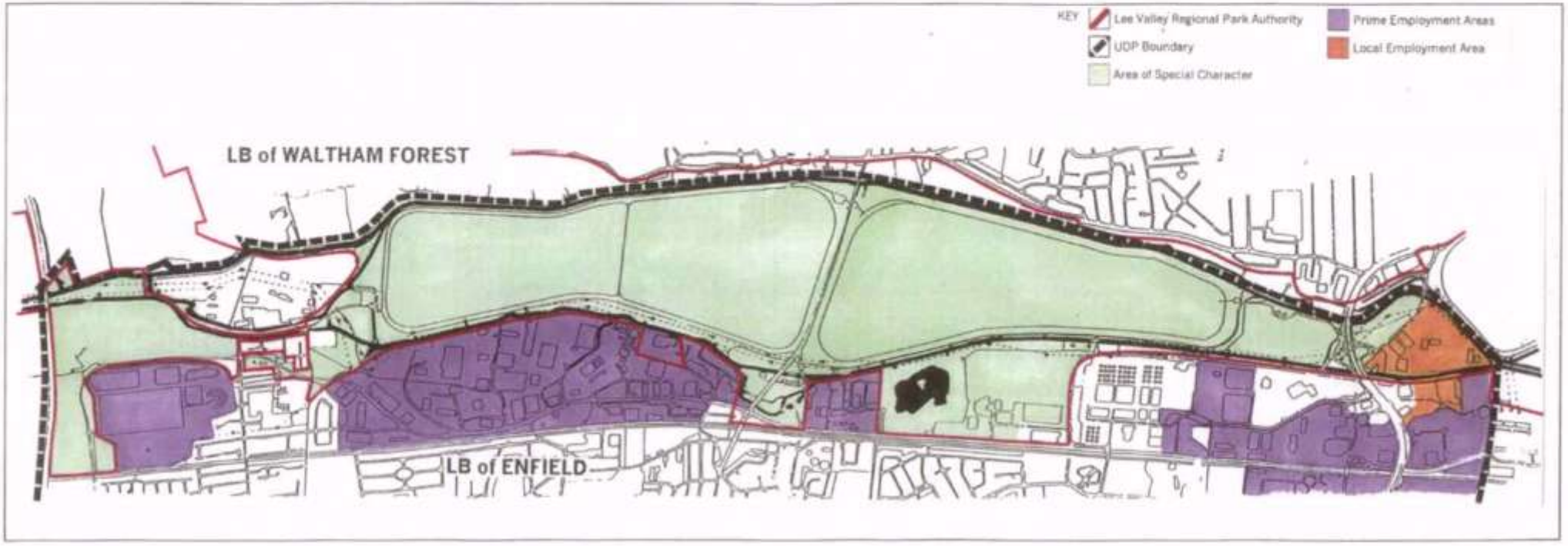
There is a wide range of planning and environmental designations within the corridor relating to issues of regeneration, employment, recreation, ecology, history, landscape, and access.

The plan below indicates the administrative boundaries of the various authorities within the study area. By land area, Enfield Borough and the Lee Valley Park Authority are most significant, with Enfield's planning designations covering the majority of the corridor.

Employment use designations dominate the western side of the navigation corridor and the surrounding land, covering the parts of Freezywater, Brimsdown Business Park, the Glovers Drive and Upper Edmonton development areas (prime employment areas), and the Ravenside Retail Park and Hazlewood Trading Estate (local employment areas).

Prime Employment Areas are those areas that generally contain quite large sites with good quality developments, or could be easily upgraded as such, and have reasonable access to main transport routes. Local Employment Areas comprise of sites that cater for more locally based companies and contain a wide variety of premises. Both designations see the local authority wishing to retain and enhance the type of facilities found in these areas and resisting uses that do not conform to the existing. Inward investment becomes concentrated in such areas and economies of scale develop with industries serving one another's needs. This focus for employment also helps to ease pressure for such developments from more vulnerable environments within Lee Valley Park.

The Reservoirs, associated land, the navigation and areas of open land that link are blanket designated as an Area of Special Character within Enfield's UDP. This reflects the unique character of the Reservoirs and their surroundings in an otherwise heavily built up Borough. The designation seeks to direct and protect the present character of the area through management and future development, promoting the positive aspects and potential the areas have to offer.



3.3.2 Environmental Designations

The corridor is designated Green Belt for about 75% of its area. This designation signals that planning authorities will seek to resist inappropriate developments, improve the environment of the Green Belt generally, and promote active management of the Belt for leisure, agriculture and other acceptable uses. Only in exceptional circumstances will new developments that normally would be resisted in a Green Belt be allowed, and in such cases great emphasis is placed on access, design and visual aspects.

Green Belt – need to refer PPG2 (LBE)

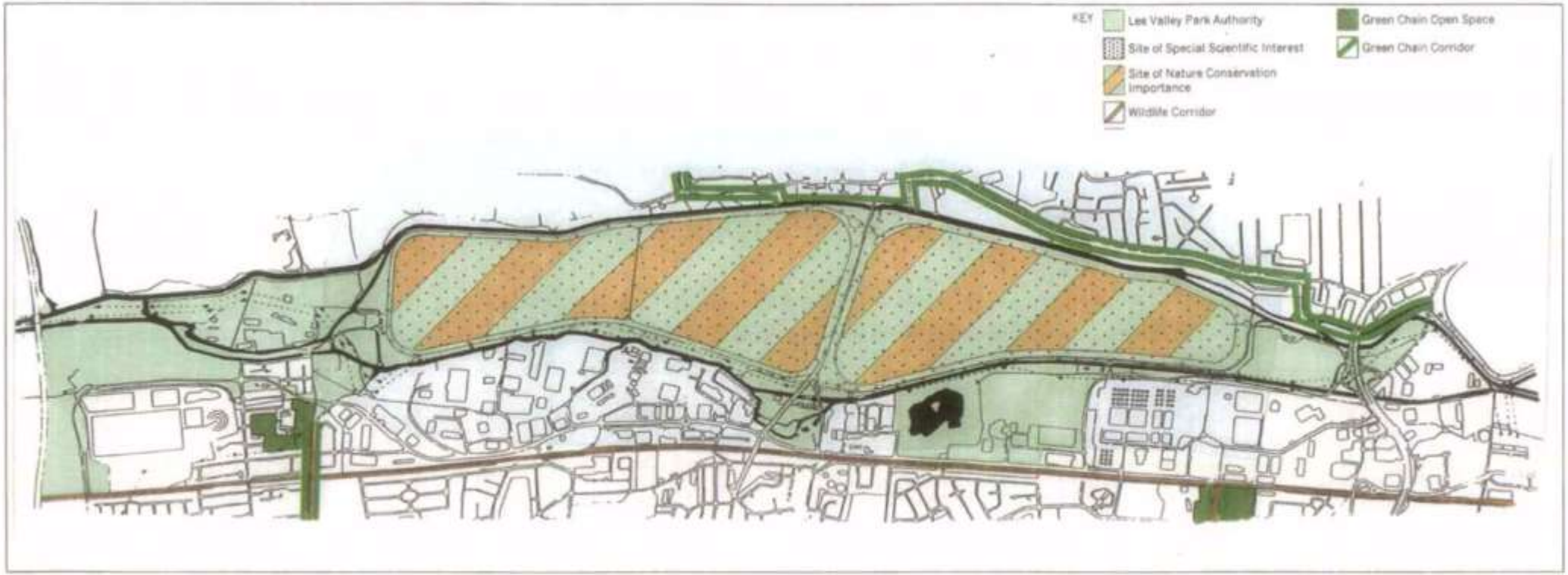
The Green Belt designation and the existence of the Lee Valley Park both seek to preserve and enhance open space. In addition, there are separate Public Open Space designations which are sites that have established and unrestricted public access and meet the recreational needs of the area. No such designations lie within the corridor however, one site, Cuckoo Hall Recreation Ground lies immediately adjacent to the corridor and brings the feel of the Park across Meridian Way from the Pickets Lane Golf Course and the Lee Valley Leisure Centre closer to residential areas.

Sites of Special Scientific Interest and Nature Conservation Importance

The King George V and William Girling Reservoirs are Sites of Special Scientific Interest in recognition of their unique habitat, particularly for birds. Under such a designation regard must be had to the sensitive and vulnerable nature of the environments and measures must be undertaken to ensure their sensitive management. New developments close to the Reservoirs or large developments in the area must also take into account this designation and seek to ensure the Sites are not adversely impacted upon. The Reservoirs are also covered by a Site of Nature Conservation Importance designation. This again involves local authority policy safeguarding existing habitats and protecting them from unsuitable development.

Green corridors play an essential part in the operation of green areas, allowing fauna relatively easy access and movement between such areas. These corridors already exist to a certain extent in the form of watercourses and rail lines, however they can be further safeguarded through formal designation as Wildlife Corridors, within which the local authority will seek to maintain and enhance their inherent ecological qualities.

Whilst the study corridor itself has no such designations, the Lee Valley Rail Line running north-south along the western boundary of the site is designated as a wildlife corridor and green chain corridor as is Salmons Brook and its banks to the north west of the study corridor. Turkey Brook also has these designations but in addition the surrounding land is designated a Green Chain Open Space. Whilst all of these lie outside the study corridor they all play a crucial part in the ecology and functioning of the Lee Navigation and River.



3.3.3 Built Conservation Designations

Historical aspects are protected via designations of sites of archaeological importance, listed buildings, and conservation areas. With such designations special permissions over and above that of standard planning controls must be obtained, and surveys, studies, and actions undertaken to ensure the sites and structures are conserved as much as possible during and after any development has taken place. Policy guidance regarding treatment of such assets is given in Planning Policy Guidance Note 15.

Archaeology is increasingly playing a significant role both in policy guidance and how or even if areas are developed. Guidance is given in Planning Policy Guidance 16 which has brought to the forefront archaeological investigation prior to and during site development.

Conservation Areas

Within the corridor there are two conservation areas. The Enfield Yard area, including the Swan and Pike area and the Enfield Lock and Government Row site are designated as a conservation area, in recognition of the unique historical and architectural interest in the area. This was originally designated in 1976 and extended in 1979 covering approximately 13.2 hectares and involving 45 buildings. The second area designated in 1970 is the Ponder Flow Mill and surrounds, covering approximately 6.3 hectares and involving seven buildings.

Listed Structures

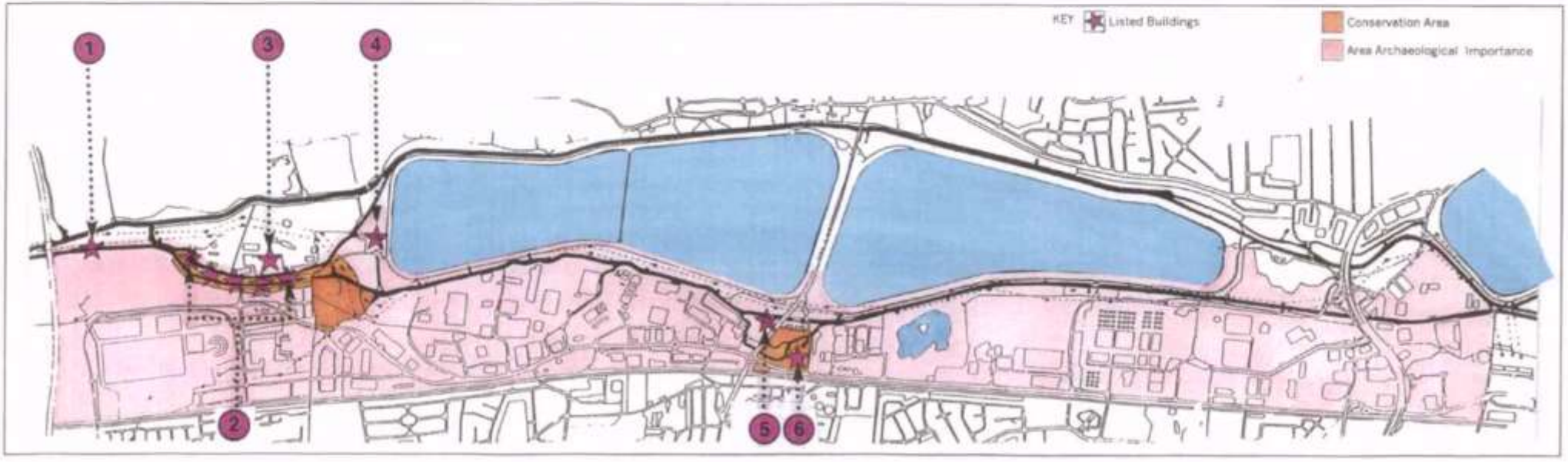
There are also a number of listed buildings/structures located within the corridor. To the very north of the corridor is the Rammey Lock bridge (1), constructed in 1835. This lock is located in an area dominated by the presence of the M25 although the lock lends an essential human scale to the area softening the impact of the motorway.

Facing onto Enfield Lock is a row of houses known as Government Row (2). Built in the 1800s these structures lie within the Enfield Lock conservation area. Within the now Enfield Island site the old machine shop, firing range and associated railings (1854-8) of the former Royal Small Arms Factory are listed (3). The King George Pumping Station (4) complex (1913) located in the Swan and Pike area is also listed.

Moving to the centre of the corridor the Former Well Station (1900) now refurbished and reused as the Navigation Inn (5) is a listed building, as is the Wrights Flour Mill complex (6) located in the Ponders End Conservation Area.

Area of Archaeological Importance

Excluding the Reservoirs, 90% of the corridor is designated as an area of Archaeological Importance. This is in recognition of the historical use of the Lee and its environs as an area of human activity.



3.3.4 Regeneration Designations

The European Union forms a vital background to economic development in Enfield and has affected the appearance and operation of the waterway corridor. The Single Market and Monetary Union have a significant impact on the corridor and surrounding areas' economic health, as has access to European funding and grants.

Between 1984-1991 in Enfield and the five surrounding London Boroughs 26,000 jobs were lost in all sectors. In January 1994, in recognition that the region was an "urban community suffering from major industrial decline", the European Commission agreed that 67 Lee Valley wards be eligible for assistance under Objective 2 Status (European structural funds). This included an area of the study corridor.

This Objective 2 Status has allowed part of the corridor to benefit from the European Regional Development Fund and the European Social Fund, both of which have played a crucial role in the economic development of the area in recent years. This has seen funding major projects such as Innova Park, the Brimsdown Regeneration Programme, feasibility and design works on the Angel Estate, and a £1m ERDF offer for the development of the Deephams Green Tech Park proposal for low tech industries.

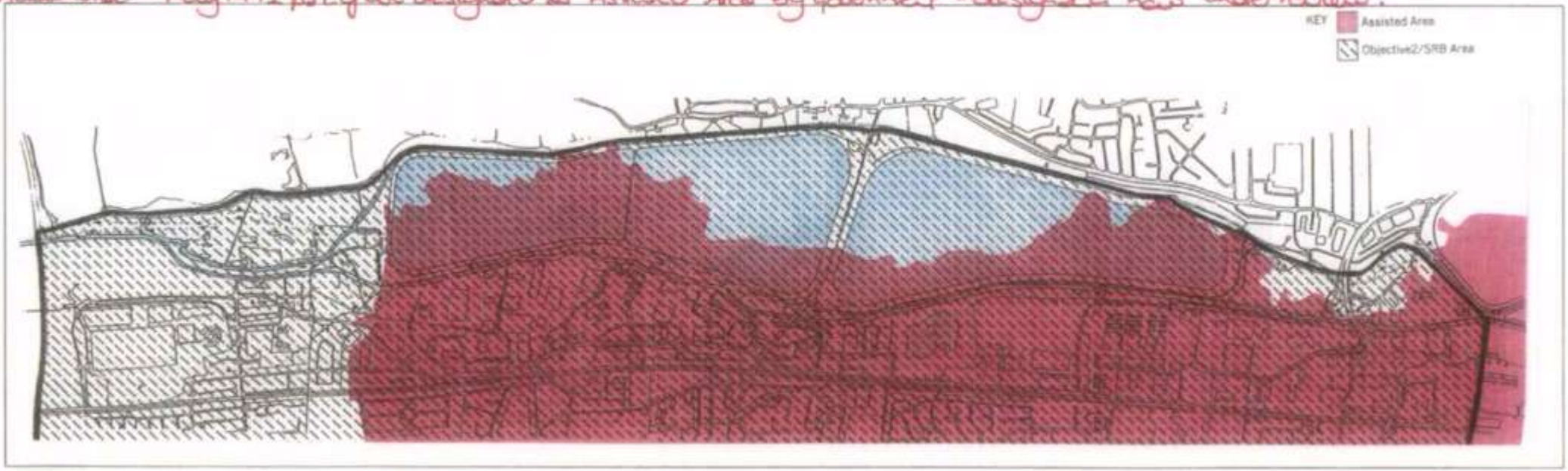
In terms of Government initiatives, the Upper Lee Valley Partnership is a key reference point in informing the Economic Development Plan and directing the spend of Government and EU monies. The ULVP area includes areas of significant deprivation and areas undergoing major industrial change some of which are represented within and surrounding the study corridor. The ULVP has approximately £39 million of Government SRB Challenge fund grant at its disposal over the period, which runs for seven years until 2002.

Since 1993, the Partnership has acted as a catalyst for public and private investment in the Lee Valley, working in synergy with the Single Regeneration Challenge Fund, City Challenge, the Task Forces and other regeneration programmes, leading to a number of key achievements.

- Infrastructure support for key economic development areas and sites.
- Enhanced transport improvements, achieved through integrated programmes.
- Support for businesses in growth sectors.
- The development of technology transfer and promotion of innovation.
- Development of advanced communications infrastructure.
- Supporting training programmes to meet the needs of growing businesses.
- A marketing and inward investment strategy for the Lee Valley region.

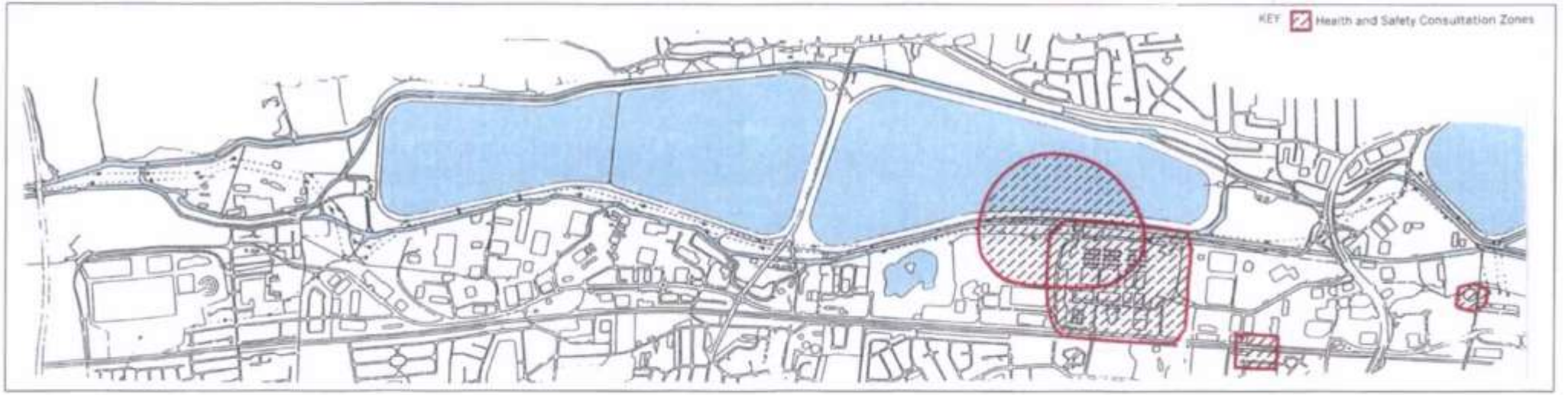
Enfield contributes nearly 3% of London's GDP and is expected to grow and slightly outperform both national and regional/sub-regional economies as a result of improved growth in the service sector relative to other areas. There are over 6,000 businesses in Enfield, of which 8 in 10 employ less than ten people. Although large firms (over 100 employees) account for most business activity, their number is small. Their vital importance however is highlighted in their accounting for some 40% of all employees in the Borough.

Measures from minor environmental upgrades of sites to wholesale access and site use restructuring has seen EU oriented businesses moving into the area. However much more needs to be done in order to achieve sustainable targets identified by the various Boroughs. With the Objective 2 status now under review as part of a major re-examination of the European Structural Funds, it remains to be seen what the impact will be on the Enfield's waterway corridor.



3.3.5 Other Planning Designations

The Health & Safety Executive have designated a number of Health & Safety Consultation Zones within the corridor. The local planning authorities have to take into consideration the land use planning effects of these consultation zones when preparing Unitary Development Plans and are seen as a material consideration in the determination of planning applications.

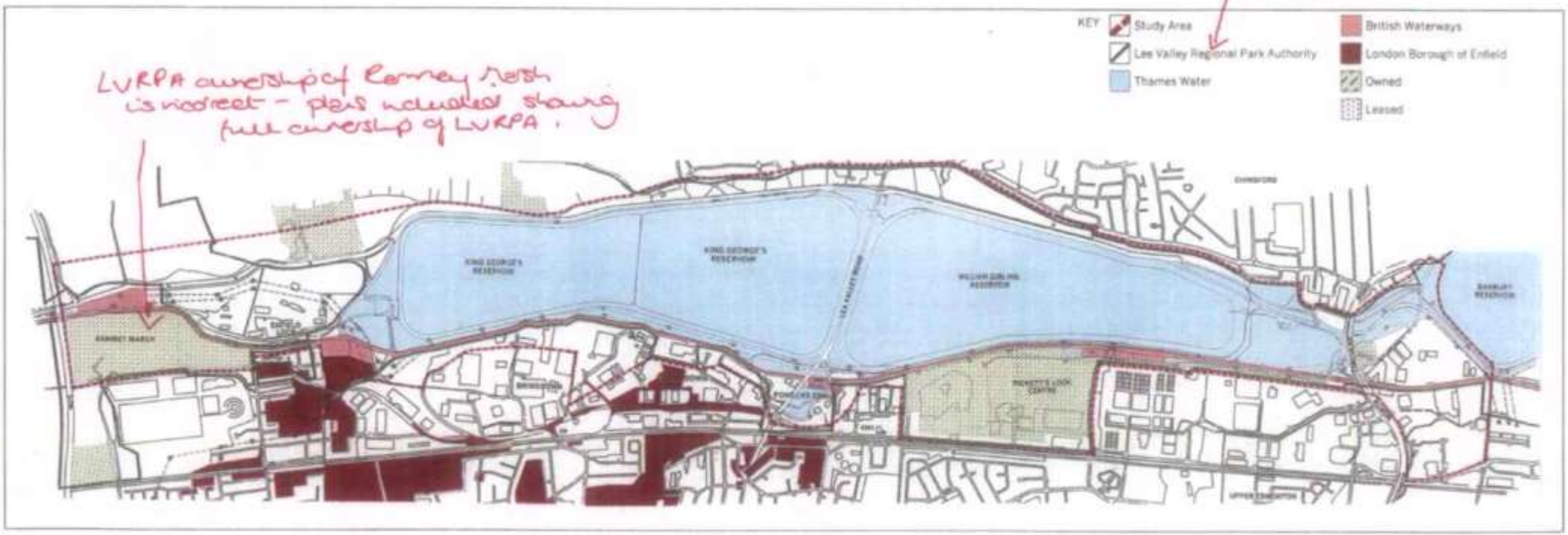


3.4 Land Ownership

Around 50% of the corridor area is owned by Thames Water in the form of the Reservoirs, associated watercourses, and works. Much of the rest of the corridor is in private ownership either by individuals or companies. A large development site in private ownership is the Enfield Island Site which is being developed by ~~Fairfield Homes~~ and sold on for residential and retail use.
Fairview New Homes PLC.

~~London Borough of Enfield~~ own only a small area of the corridor area, on the north west corner of the King George Reservoir, whilst the Environment Agency own the Rammey Marsh flood relief channel and the aqueduct on the northern boundary of the Banbury Reservoir. British Waterways owns the River Lee course and banks which include associated structures such as the towing path, Enfield Lock, Pickets Lock and Enfield Maintenance Yard.

A130 owns Land South of Black Dyke at before Capel Oddsell Research Site.



3.5 Landscape and Habitat Character

3.5.1 Landscape

The character of Enfield's waterway landscape is composed of a number of consistent elements that characterise much of the length of the navigation within the study area These elements have a striking and dominant effect on the character of the navigation

The navigation passes by a predominantly industrial area to the west and two large reservoirs to the east. The scale, massing and the appearance of the industrial units heavily influences the character of the navigation and creates a negative impression. The embankments of the reservoirs rise steeply to the east of the navigation and to a height where it is often not possible to see beyond the top of the slopes The long expanses of grass embankment emphasis the linearity of the navigation and provide little contrast or variety, although hedgerows along the towpath help to provide interest and variety The consequence is that much of the navigation has an enclosed character, with limited distant views. Vegetation close to the navigation further adds to the sense of enclosure

The other consistently dominant element in the corridor are the pylon towers and overhead cables, which follow the line of the navigation Although the pylons vary in distance from the navigation along the length, they always have overpowering influence on the character of the waterway Due to the close proximity of the pylon towers in many places, their scale is completely out of keeping with the navigation, causing an intrusive effect.

To the north of the study area, the character is different, typified by a more rural character, where the navigation is bounded to the west by Rammey Marsh Scrub and woods enclose much of this stretch, with the occasional cottage interspersed within the vegetation. This an attractive, tranquil and in places high quality landscape (Quality A/B – see Landscape Evaluation Report). The area is degraded by the M25 flyover, creating both a visual and noise intrusion.

The character changes on reaching a new bridge for the new housing development at the former Royal Small Arms site, becoming more urban in nature. The navigation is flanked by two storey housing. To the east are the 18/19th Century terraced munition workers cottages, which form part of the Enfield Lock Conservation Area, and to the west are an erratic mixture of housing styles, forming disharmony in relation to the Conservation Area. Enfield Lock and lockhouse, the Swan and Pike, Enfield Yard and the Prince of Wales Recreation Ground all add interest and help create an attractive blend of historic built development and woods, scrub, hedges and fields.

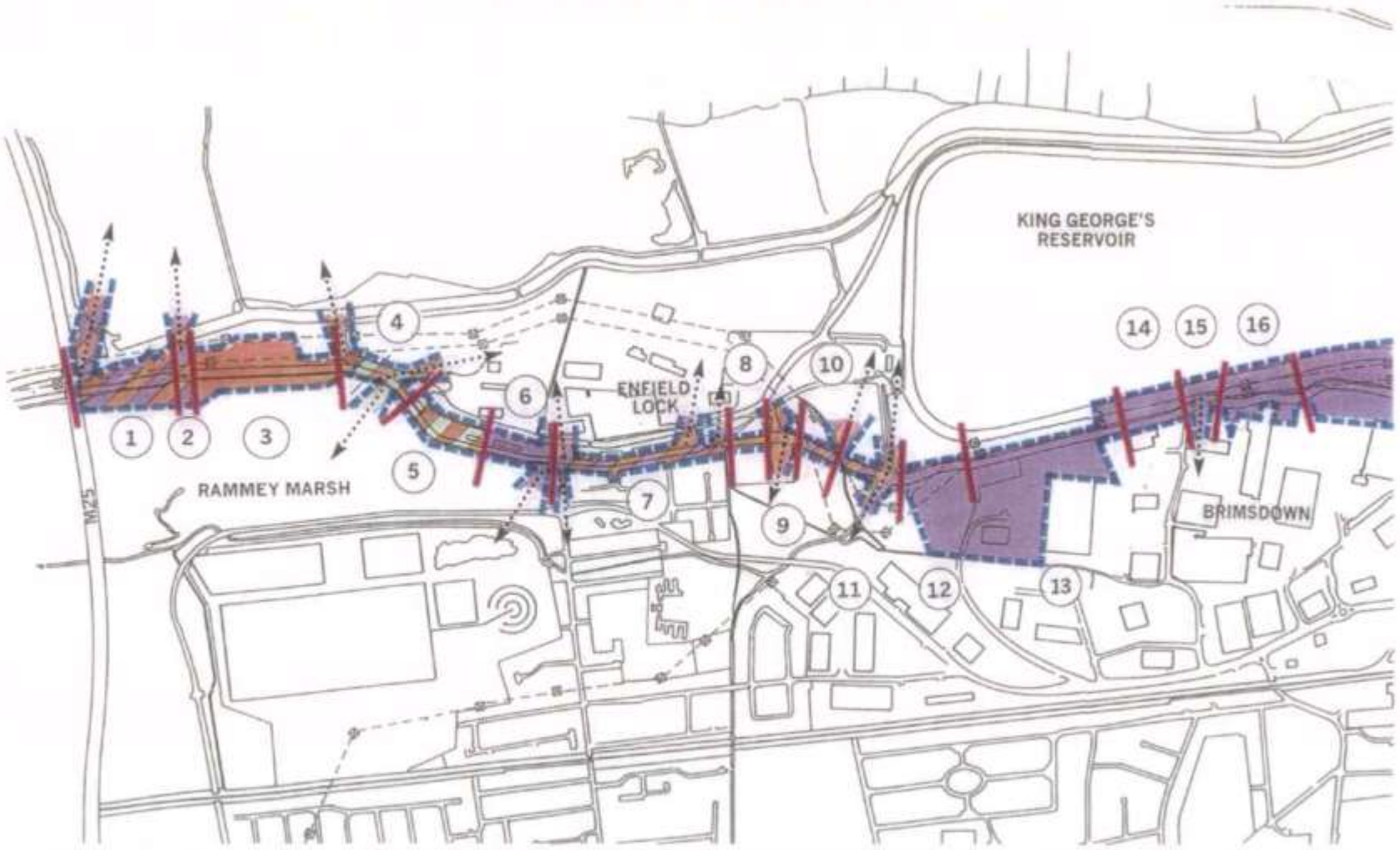
The navigation enters a length of typical character with the Brimsdown Industrial Estate to the west and the reservoir embankments of the King George's Reservoir to the east The pylons start to strongly influence the character of the navigation, running down the eastern side of the navigation

Beyond the Brimsdown Industrial Estate the character remains similar but there a number of interesting buildings and features, in particular the Navigation Inn and Ponders End Meadows, but also Columbia Wharf and locks, the South Island Marina and the Ford Works

The navigation moves from this built up area to a more open landscape, still characterised by a reservoir embankment (William Girling Reservoir) and pylons to the east To the west, however, lies the golf course, which is intermittently viewed through the vegetation bounding the navigation Combined with a visual strong hedgerow to the west this has a strongly enclosing effect, and the straightness of the navigation strengthens the linearity of the corridor. This is only interrupted by Pickets Lock, with the associated visually negative elements of the gas depot, lock cottage, Ushers Yard and sewage works

Moving further southwards, the reservoir embankments eventually start to decrease in impact to the east, giving way to an area of worked land, largely screened by a hedgerow, before reaching the visual barrier of the North Circular Road bridge The scale and nature of the bridge crossings have a dramatic and negative effect on the local character The bridge marks a further change in character, returning to predominantly industrial land use Ravenside Retail Park and Hastingwood Industrial Estate bound either side of the navigation, with some vegetation on the offside helping soften this very urban character. Generally the appearance is negative with large scale sheds, disused buildings, portacabins, slag heaps, vehicular access, crash barriers along the towpath edge and generally a neglected appearance.

The detailed landscape evaluation survey of the Lee Navigation within the London Borough of Enfield is included in Appendix B. The survey work was undertaken in the summer of 1998 and provides a detailed examination of the environment of the waterway corridor The recommendations for improvements have been included in the action plans contained in Chapter 8.



KEY
Visual Envelope
Landscape Character Area
Distant Views

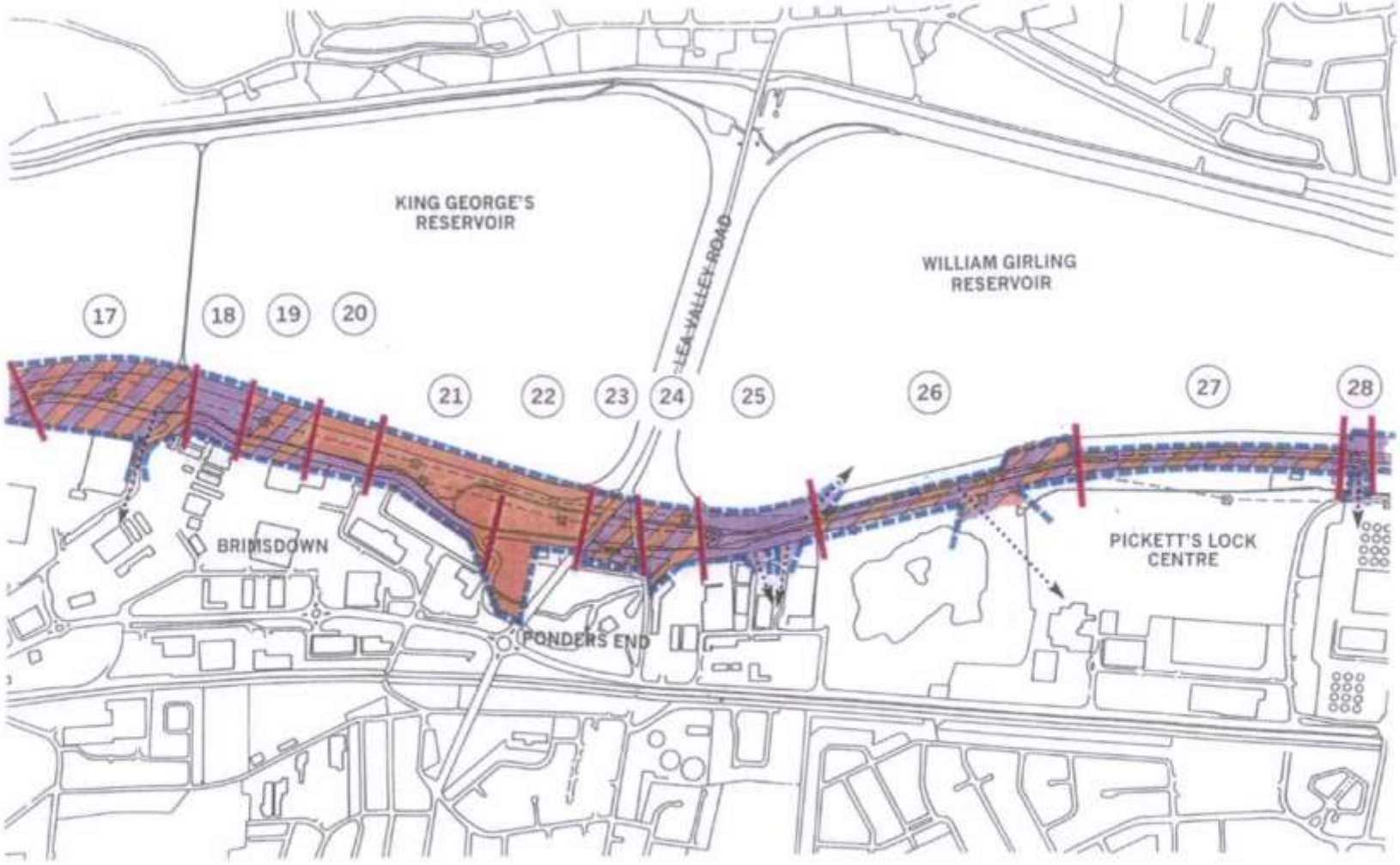
Landscape Perception
Quality Area A
Quality Area B
Quality Area C
Quality Area D

0 10 100 200 400 600

ENFIELD
CORRIDOR STUDY
Landscape Overview

British Waterways
Waterway Environment Services

A



KEY
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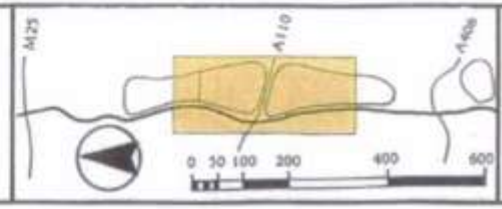
Landscape Perception
- Quality Area A
- Quality Area B
- Quality Area C
- Quality Area D

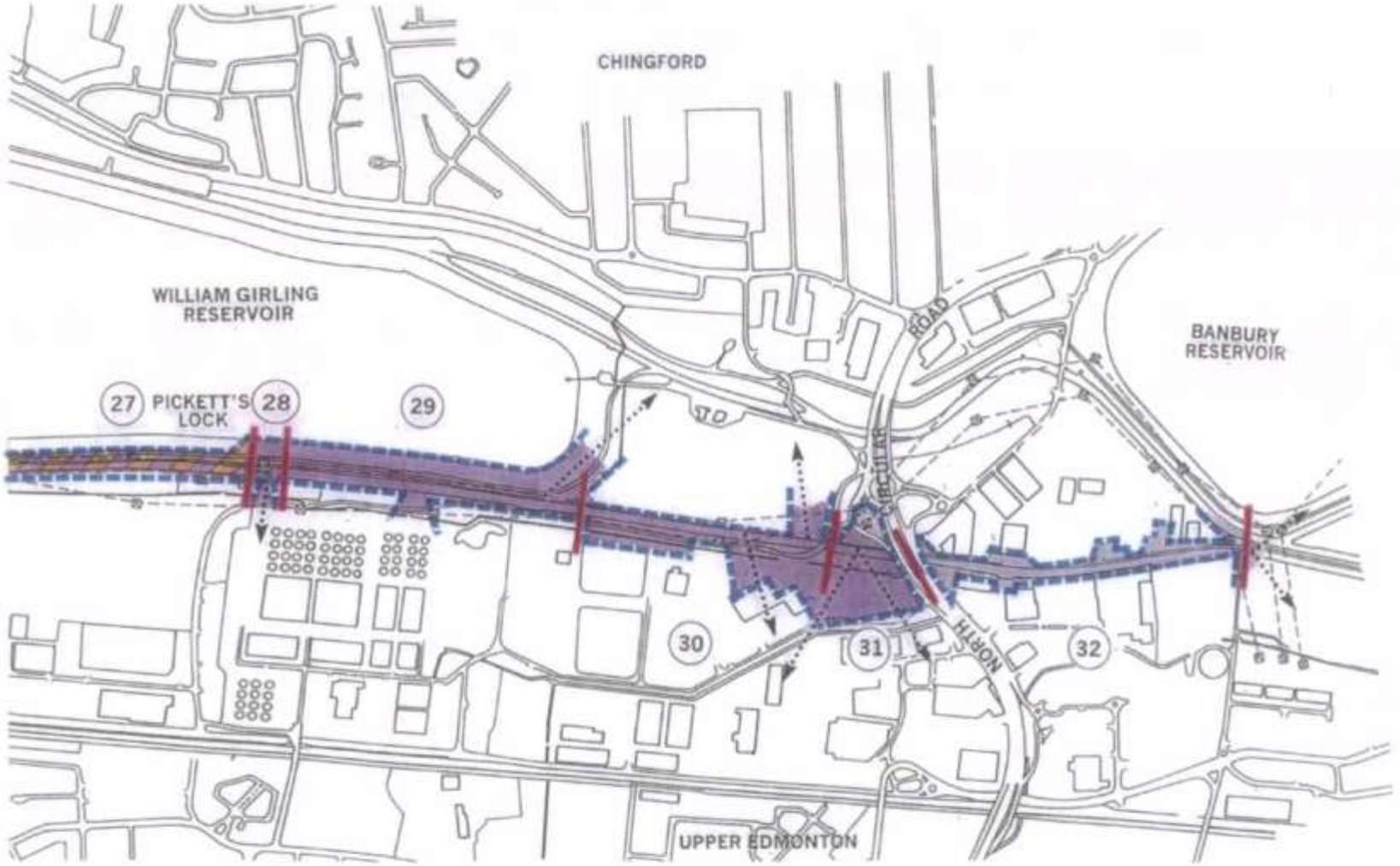


ENFIELD CORRIDOR STUDY

Landscape Overview

British Waterways
Waterway Environment Services

B



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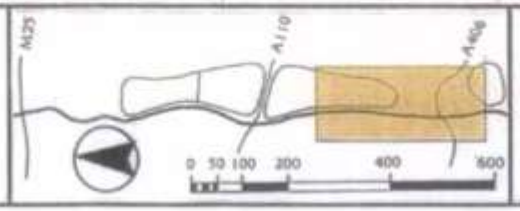
Quality Area C
Quality Area D



ENFIELD
CORRIDOR STUDY
Landscape Overview

British Waterways

C

3.5.2 Habitats - should refer to LVRPA's BAP.

The number of habitats, and their variety and extent, is limited by the neighbouring industrial development. However, there are a number of important habitats that greatly enhance the riverside ecology. Adjacent to the navigation, scrub, woodland, hedges and grassland, provide invaluable habitats and are home to a number of locally and nationally important species. These particular occur within and adjacent to Rammey Marsh and at some locations along the reservoir embankments.

Hedgerows, scrub and woods also provide important wildlife corridors, adding to the existing value of the navigation. The navigation itself provides an important habitat.

Riverside Ecology

In 1993 a survey was undertaken of the Lower River Lee catchment area to identify the quality of the ecological environment associated with the watercourses.

In relation to the study area the report noted that many areas along the watercourse were devoid of significant ecological interest due to artificial banks and channels, and the quality of the adjacent built up areas.

Tree and shrub lined channels, of which there are very few in the corridor, provide important habitat corridors across the inhospitable areas which they border. The two Reservoirs and their environs provide such a corridor to the east of the navigation. Interestingly, whilst the artificial sections of the Lee River provide a poor ecological habitat, the build up of silt and mud on the base and edges has provided a softening element, allowing some flora species to become established.

The survey identified sites/stretches along the navigation and classified them according to their ecological quality into four categories.

Critical

These areas are ones where river bank and channel vegetation are apparent and provide the best mix of vegetation in comparison with the rest of the corridor. Such areas tend to be bordered by more hospitable land uses such as semi improved grasslands which allow various species to thrive. Environmentally sensitive, they provide a critical ecological resource for the Lee and as such need to be protected.

Important

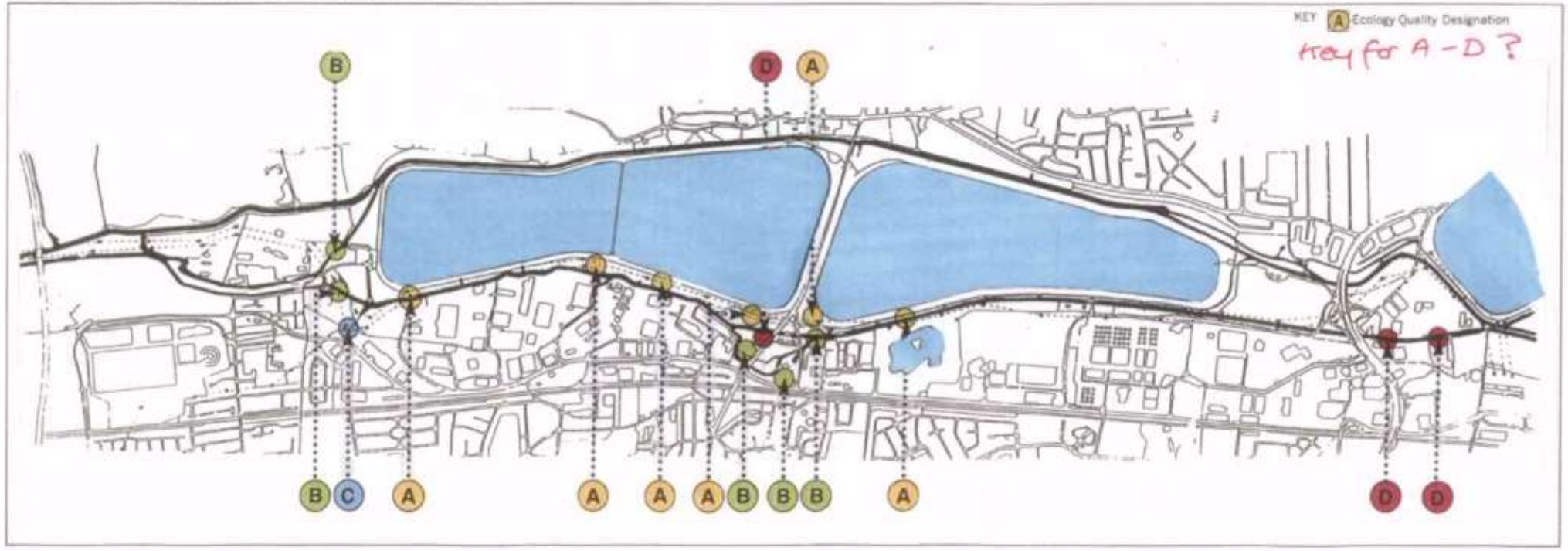
These stretches are less critical in their role in the ecology of the Lee, however they still have an important role to play in the overall function of the corridor. They tend to be bordered by a mix of hospitable and low impact urban development and contain a good mix of species.

Good

These stretches contain established vegetation of varying quality. The surrounding land use is a mix of high and low impact urban development with some opportunity for vegetation to establish.

Poor

These areas are dominated by high impact, often poor quality urban development, with very limited or no riverside vegetation.



3.5.3 Key Attributes

Key Features	Attributes
Navigation	Water, boats and aquatic vegetation, all provide a positive character, life and activity
Trees, woods, hedgerows, and scrub.	Visual important features in a predominantly urban landscape, helping to soften this urban character, and provide interest and diversity
Herbaceous fringes and grasslands	Provide an additional habitat and visual diversity This is particularly noticeable on the towpath side along the reservoirs
Views of the wooded ridgeline of Epping Forest.	Distant views of the ridgeline are possible in some locations to the east, providing interest and diversity to the horizon
Rhammey Marsh lock, bridge and lock cottage	
18/19th Century cottages, pill box and Edwardian houses on Government Row	Distinctive features add a strong visual and historic character to this part of the navigation
Ordnance cottages on Government Row	18/19th Century munition workers cottages, within Conservation Area Cottages provide a strong historic and visual character to the navigation.
Enfield Lock and lockhouse, Enfield Yard, the Swan Pike, and the Prince of Wales Recreation Ground.	All form part of the Conservation Area, and provide an attractive mixture of historic buildings and structures, craft, open space and vegetation, making this a notable point on the navigation
Railway bridge	Distinctive iron bridge, in contrast to the historic brick bridges and modern, featureless and intrusive concrete road bridges Large pipes detract from the appearance of the bridge.
Mossops Creek	Attractive tributary, with marginal vegetation and trees, enhanced as a linear park. Attractive element within a visually negative industrial area.
Navigation Inn	Grade II listed pumping station, converted to pub, provides an attractive and distinctive feature on the navigation.
Historic crane at Columbia Wharf	Historic feature reflects the previous use on the navigation.

3.5.4 Negative Elements

Key Features	Attributes
M25	Views of flyover are visually intrusive along the navigation. Noise from the motorway is very intrusive over much of the navigation close to Rhammey Marsh
Pylons	The pylons follow the line of the navigation for nearly the entire length within the study area. Much of this length, the pylons are very close to the navigation The consequence is to dominate and overpower, through sheer contrast in scale of the structure in height
Moorings at Rhammey Marsh	Erratic mixture of materials and style of moorings creates a visual discordant appearance
Housing on Ordnance Road	Erratic mixture of building styles Cars parked on the road further detract from the appearance
Brimsdown Industrial Estate	The estate forms the main area of urban character along the navigation, and generally its character has a negative effect. The character is formed through a combination of large unattractive industrial units, fencing, containers, storage areas, and vehicular access Particularly intrusive industrial units are Enfield Energy Centre; Delta Site, Johnson Matthey Site, Ponders End Industrial Estate
Lee Valley Road bridge and Wharf Road bridge	Modern concrete span bridges, create visually intrusive features on the navigation. Noise from the Lee Valley Road bridge is also intrusive close to the bridge
Industrial warehouses and lock cottages at Columbia Wharf	Featureless brick industrial warehouses and neglected lock cottages, create an unattractive appearance
Ford Works	New Ford building, whilst large in scale, provides a positive style for the nature of the development. The remainder of the site has unsightly, development, industrial elements, skips and vehicles
Concrete overflow channel	Harsh engineering treatment of bank edges has a detrimental effect on the visual character of this part of the navigation
Ushers Yard and lock cottage at Picketts Lock	Neglected appearance of the lock cottage and lockside, together with the unattractive character of Ushers Yard, have a negative impact on the navigation
Sewage works near Pickets Lock.	Tanks, pipes and lighting all create a visually intrusive affect, within a less urban location
Working of land to the south of William Girling Reservoir.	Currently establishes a visually detractive character
Distant views of Chingford tower blocks.	Large ugly buildings viewed on the horizon, are a noticeable element in views
London Waste Ltd Recycling Centre	Relatively well designed development considering the nature of the development However, the scale and its appearance have an intrusive affect on the visual character of the navigation
Scrap Yard near the North Circular Road.	Moderate sized scrap yard, which is partially screened in summer, has a visually detrimental affect on the character of the navigation.
Lee Park Way bridge and North Circular Road bridge and junction	Modern concrete span bridges, produce visually intrusive elements within the character of the navigation. Noise from the North Circular Road bridge also has a detrimental affect on the navigation in proximity to the bridge
Views of gas works and tower blocks at Upper Edmonton	Large ugly buildings viewed on the horizon, are a noticeable element in views.
Riverside Retail Park and Hastingwood Industrial Estate	Industrial zone on both side of the navigation have a significant affect on the character of the navigation Large sheds, derelict buildings, porto-cabins, slag heaps, steel piling and crash barriers, give a negative and neglected appearance to this part of the navigation

what is future of feature in Hotel Scene?

3.6 Recreational Uses

3.6.1 Waterway Status

Under the Transport Act 1968 and the British Waterways Act 1983, the 2,000 miles of British Waterways' owned waterways are classified for estate purposes into three groups·

- 'Commercial' Waterways which must be principally available for the carriage of freight,
- 'Cruising' Waterways which are principally available for cruising, fishing and recreation;
- 'Remainder' Waterways that must be dealt with in the most economical manner possible, consistent with health and safety requirements

The River Lee Navigation from Hertford to the River Thames at Limehouse and to the tail of Bow Locks is classified as 'Commercial'.

3.6.2 Powered Boating

British Waterways' records indicate that the number of boats based on the London Region in 1999 were·

	Privately owned	Hire
Lee Navigation in Total	420	36
Lee Navigation - Rammey Marsh Lock to Chalk Bridge	73	0
Stort Navigation	153	1
London's Canals in Total	1355	57

The data below describes typical Annual Traffic Volumes based on British Waterways Boat Traffic Model and Lock Counter Data

Lee Navigation	Approximately 3,000 movements per year
	Rammey Marsh Lock to Chalk Bridge approximately 1,500 – 2,000 movements per year
Stort Navigation	Approximately 2,000 movements per year
London's Canals in Total	Approximately 30,000 movements per year

Unfortunately there are no figures available on the breakdown of the number of private pleasure boaters, holiday hire boaters and pleasure trip boaters

3.6.3 Existing Mooring and Associated Boating Facilities

	Hazelmere Marina	Rammey Marsh Lock	Enfield Lock	Ponder's End Lock	Pickett's Lock	*Stonebridge Locks*
Overnight Moorings	●	●	●	●	●	●
Elsan Disposal	●					
Pump Out	●					
Diesel	●					
Gas						●
Water Point	●	●		●	●	●
Rubbish Disposal	●					●
Toilet	●			●		●
Public Telephone	●					●
Groceries	●		●			
Pub/Restaurant	●		●			●
Station	●	●	●	●		●

Note: Hazelmere Marina and Stonebridge Locks are located beyond the immediate study area.

Rammey Marsh Lock

The Rammey Marsh Cruising Club is situated on the off-side, below the lock. It provides on-line long term and residential moorings for club members. Boat numbers are limited by the space available The site includes parking, a club house/chandlery and water, disposal and refuse facilities.

Enfield Yard

The site is owned and partly occupied by British Waterways Redwatch moor their community boat and British Waterways also moor operational boats on the wharf side It is envisaged there will be new moorings established in the near future in association with the dry dock.

Navigation Inn

Presently visitors have to moor on the towing path side and take a considerable detour to gain access to the Inn for refreshment.

Columbia Wharf

Existing toilet and Elsan disposal block, accessed either directly from the neighbouring South Island Marina site, or by boaters across the lock footbridge.

South Island Marina

Site owned by British Waterways and leased out to a boat business Boats moor on the offside and in part of the river section. There is parking and refuse disposal.

3.6.4 Unpowered Boating

King George's Reservoir (South)

King George Sailing Club is one of eight sailing clubs in the Lee Valley Park. It provides facilities for dingy sailing and some wind surfing The land is leased from Thames Water. Although this is a private club, sailing by non members is available. A temporary structure acts as a club house. The club is seen as regionally important due to its potential as a major venue for serious training and competition at all levels.

Sail water canoeing is also takes place on the reservoir.

Deephens Wharf

This site is partly occupied by Edmonton Sea Cadets and facilities are housed in a single storey building with associated slipway.

Boundary Reservoir

The existing watersports centre provides limited water-skiing facilities.

3.6.5 Informal Visitors, Walkers and Cycling

For towing path use, British Waterways have data from the 1995 National Count, related to the towing path stretch between Rammey Marsh Lock to Chalk Bridge.

Usage for the Lee Navigation - Rammey Marsh Lock to Chalk Bridge section (visits per annum) was as follows:

✦ Informal visitors	248,000
✦ Cyclists	46,000

The Lea Valley Walk is an important circular walk consisting of a 50 mile regional trail, split into five sections utilising the Lee Navigation towing path from Bow in London to Hertford.

There are two additional walks which can be accessed from the towing path:

- ✦ The Pymmes Brook Trail at Picketts Lock;
- ✦ The London Outer Orbital Path (LOOP) at Enfield Lock

Cycling is permitted along the River Lee Navigation towing path. However, cyclists are required to have a British Waterways' cycling permit

3.6.6 Angling

1995 usage for the Lee Navigation - Rammey Marsh Lock to Chalk Bridge section (visits per annum) was as follows:

✦ Anglers	23,000

British Waterways owns and leases the fishing rights to the Lee Anglers Consortium on the towing path side of the River Lee Navigation within the London Borough of Enfield. The predominant species of coarse freshwater fish found in the river are roach, perch, bream and pike.

3.6.7 Special Events and Activities

Events are regularly staged along the corridor:

- ✦ sponsored walks, eg "Meridian Line Walk" which is being jointly promoted by British Waterways and Lee Valley Park;
- ✦ Enfield Lock Village Fair, a small community festival, takes place on an annual basis Dragon boating used to be a feature of this festival;
- ✦ The 2000 National Waterways Festival will be hosted on the Lee Valley Showground adjacent to the navigation at Waltham Abbey, on the immediate outskirts of the study area This venue is regularly used for events.

However, there are no other major boat rallies, canoe marathons or organised events held on a regular basis on the Enfield length of waterway.

3.7 Linkage and Connections

The following baseline information on linkages and connections has been extracted from the "Brimsdown Cyclepath and Footpath Study", produced by Urban Initiatives in December 1997, for London Borough of Enfield.

The Study broadly covered an area centred on Brimsdown, stretching north to Rammey Marsh, King George's Reservoir in the east, Ponders End to the south, and Enfield Highway to the west.

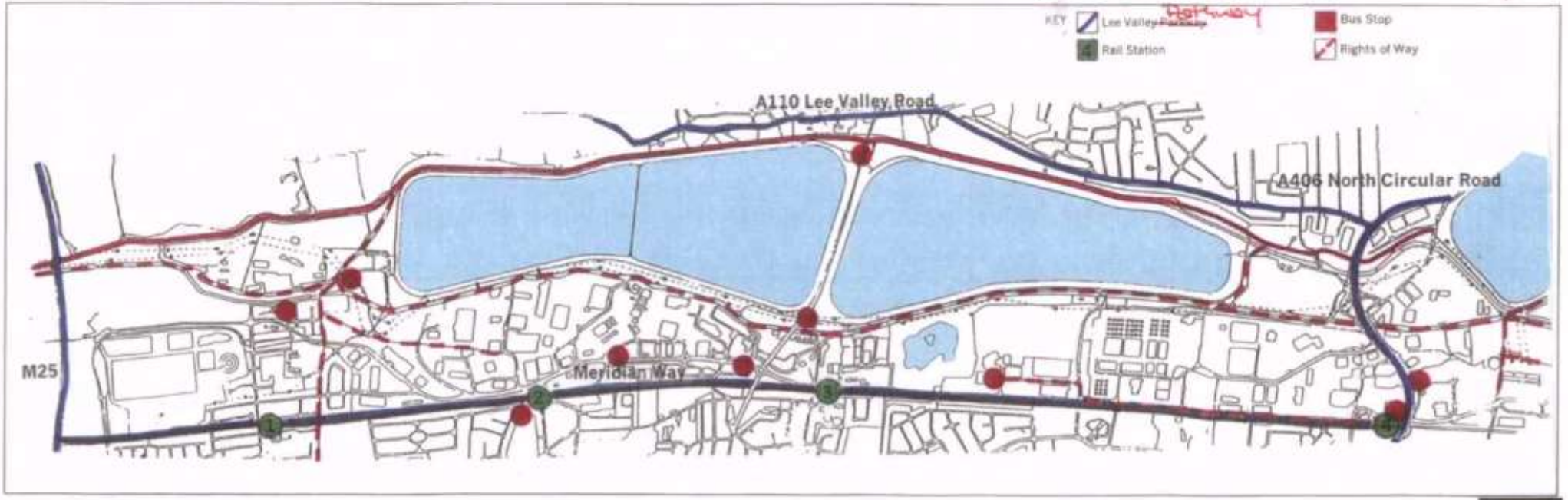
Exsiting land use pattern is broadly banded in a north-south direction, as described in detail in section 3.1. From west to east the bands are as follows:

- residential - Enfield Wash, Enfield Highway, Ponders End;
- industry - Brimsdown Estate;
- recreation - River Lee Navigation and towpath; and
- recreation - open space and reservoirs.

The railway line divides the residential and industrial areas and the River Lee Navigation divides the industrial area from the main recreational area. Within this area the railway can only be crossed at Green Street, immediately north of Brimsdown Station, the pedestrian bridge between Green Road North and Duck Lees Lane, just north of Lea Valley Road, and Lea Valley Road itself. The Navigation can only be crossed in the north at Enfield Locks and slightly further south by a disused railway line and in the south by Lea Valley Road, Wharf Road and at Ponders End Lock.

Note the LVRPA cycle link (Park Pathway) as part of Sustrans National Network.

See extract from Section 5 of LV RPP for 2000 for correct alignment of the Pathway.



3.7.1 Modes of Transport and Connections

The Brimsdown Study describes the current provision and connections for the following

Trains

The Lee Valley railway line, which forms the western boundary of the Brimsdown Industrial Estate forms the backbone of the Lee Valley Objective 2 area. There are three mainline stations Ponders End Station which serves the southern end of the Brimsdown Industrial Estate, Brimsdown Station which is centrally located to Brimsdown, and Enfield Lock Station which is accessible from the northern extreme of Brimsdown.

Buses

Brimsdown is poorly served by bus services. Just three services serve the area, two of which run along the fringe terminating at a new bus facility near Brimsdown Station, whilst the third route follows Mollison Avenue. A further bus service links the area to Chingford via Lee Valley Road. There is no penetration of bus services into the industrial areas.

Additionally a leisure bus service links facilities on both sides of the valley.

Road

The main road through Brimsdown is the north-south spine Mollison Avenue (A1055) which continues the Lee Valley "spine" road from Meridian Way, intersecting with the Lea Valley Road (A110) in the south. The Brimsdown Industrial Estate subdivides into smaller areas focused around the access roads from Mollison Avenue, most of which form long cul-de-sacs finishing at the edge of the Lee Navigation. In the main there are no direct links between any of the access roads. Green Street and Lea Valley Road form the main east-west links crossing the railway, with the Lea Valley Road extending beyond crossing the reservoirs to Chingford.

Cycling

There are currently only two purpose-made cycle routes within the Brimsdown Business Area:

- a cycleway from the roundabout with the Lea Valley Road north along Mollison Avenue stopping at the junction with Braithwaite Road.
- Bancroft Way and Millmarsh Lane - a combined cycle/pedestrian route running between two boundary fences The path has recently been upgraded to incorporate a dedicated cycle and pedestrian paths.

There are two main strategic proposals currently being reviewed:

- the London Cycle Network, as part of the SUSTRANS network, aims to link the strategic centres with key links concentrated on Enfield Town. Mollison Avenue forms part of the LCN.
- Lee Valley Park Authority is providing a cycle link along the length of the park which will run along the east side of King George's Reservoir.

Pedestrians

Most walking trips are less than one mile and many are for the purpose of connecting from public transport to the final destination The main route is the towing path which runs along the east side of the navigation. The only access to the Brimsdown area is at Enfield Lock to the north and Ponders End Lock to the south

Additional footpaths of note are the previously mentioned combined cycle/footpath linking Brancroft Way with Millmarsh Lane, which extends further north to the Prince of Wales Recreation Ground via a bridge over Turkey Brook. A dedicated footpath also runs in an east-west direction from Enfield Lock towards Enfield Lock Station.

Almost all public highways have footpaths on at least one side of the road, although crossing facilities are poor or non-existent, especially over Mollison Way which is a two lane dual carriageway with central barriers over much of its length

In summary road and rail links are generally good, providing good access into the area for such forms of travel. Bus services are poor and access for pedestrians and cyclists are often difficult and unrewarding. East-west travel is particularly difficult with the railway, Mollison Avenue and the navigation creating barriers to cross flow. Due to the cul-de-sac layout of the Industrial Estate, cross flow within the Estate is also difficult Where purpose-made footway/cycleways are provided they are usually crude, unsympathetic and poorly maintained, often set in an unattractive immediate and wider environment.

3.8 Water Resources and Quality

3.8.1 Water Resources

The presence of both natural and man made waterchannels and bodies has shaped the development of the corridor and now forms an essential asset for the area.

Reservoirs

King George V and the William Girling Reservoirs lie within the study corridor, and immediately to the south is Banbury Reservoir. These have numerous associated infrastructure, both obsolete, for example the former Well Station at Ponders End, and functional in the form of underground pipes, water movement channels etc. The presence of both the Reservoirs and their infrastructure means that certain areas of the corridor are restricted in what they can and cannot be utilised for.

River Lee, Lee Navigation, Associated Flood Relief Channels

The River Lee has long been an asset to human activity and was further utilised as such through its canalisation in the 1800s. This has led to the presence of both the natural course of the River and its straightened route being present in the corridor. The canalisation also brought with it associated infrastructure in the form of locks, lock houses and maintenance yards.

As well as being an asset, the presence of water has also brought problems in terms of flooding, with parts of the corridor falling within the flood plain. In order to alleviate this problem flood relief channels are present throughout, and are of relatively recent construction.

Other Water Courses

There are four main feeders into the navigation in the corridor, all coming in from the western side. In the north west of the corridor Turkey Brook (1) runs through residential and open space areas to feed into the Lee Navigation. Further down Mossops Creek (2), a part culveted course has recently been improved creating a pocket eco-park space based around the water environment.

Towards the southern end of the corridor is Solomon's Brook (3) which runs through a relatively open, underused area of land down to the North Circular where it then goes through an area of previous heavy industry, to meet up with Pymmes Brook (4) in the far south of the corridor.

3.8.2 Water Quality

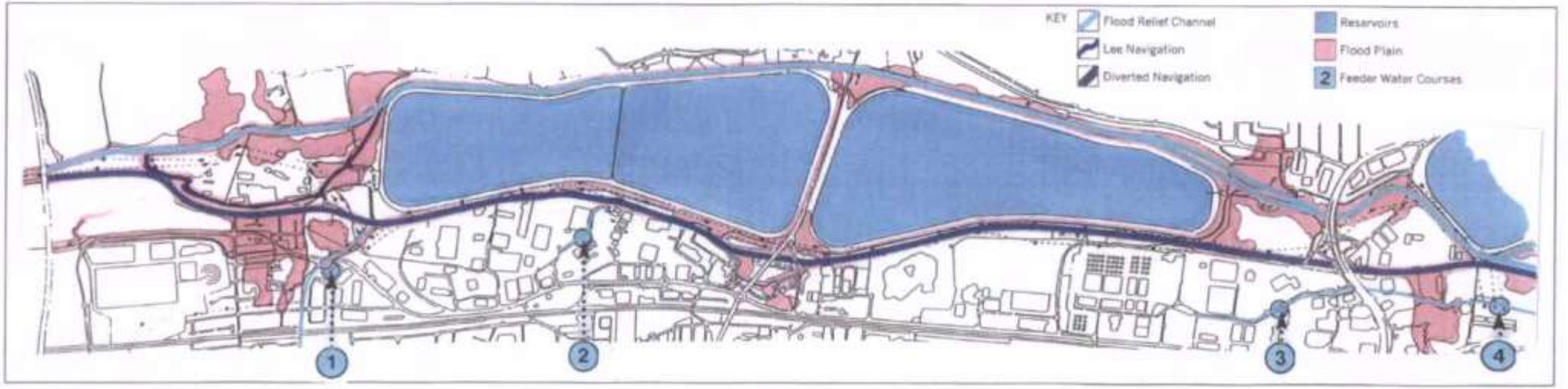
The water quality of the corridor is historically poor, with sewage effluent, pollution incidents and long term mis-connections creating a problem. In addition the surrounding land to the west of the corridor is primarily built up forming large areas of urban runoff from sites which contain numerous sources of contaminants to the water courses.

Water quality is the responsibility of the Environment Agency and will be a key element in any successful upgrade of Enfield's waterway corridor.

Recent activity and initiatives have sought to improve the quality of the water in the corridor. This has included schemes such as Mossops Creek which has sought to improve the area adjacent to the Creek and create an ecological feature in the area, general upgrades of the surrounding industrial areas, especially where they front onto the navigation, and planning policies and controls that seek to improve developments siting alongside the waterfront.

In addition the active role of the Environment Agency and the development of Conservation and Ecology strategies by Thames Water have assisted in the overall improvement of the water quality in the corridor.

The historical use of Enfield's waterways led to quality problems. This has been reinforced over the years by a general lack of appreciation of the watercourses as assets, not just for navigation but for ecology, recreation and improving quality of life. A residual problem today is the poor quality of the urban features which cross or bound the watercourses, such as rail bridges, pipe crossings for gas, water, sewerage or electricity and boundary walls. The quality and image these features present serve only to detract from the water environment and set a poor example to future developments.



4.1 Key Issues and Potential Conflicts

The key issues and potential conflicts emerging from this resource and policy review that the partner organisations need to address are:

- Recreational Use and Development in the Green Belt
- Linkages and Industrial Interface
- Sustainable Modes of Transport
- Recreational Use of Reservoir Embankments.

4.2 Recreational Use and Development in the Green Belt

4.2.1 PPG2 Green Belts

The Enfield corridor partly falls within designated green belt land. The fundamental aim of a green belt designation is to prevent urban sprawl. There is a general presumption against inappropriate development within green belts in order to assist in safeguarding the open countryside from encroachment and to assist in urban regeneration by encouraging the recycling of derelict and other urban land. PPG2 defines new buildings as inappropriate to the green belt but also lists exceptions to this 'rule' including essential facilities for outdoor sports and recreation.

Inappropriate development is seen as harmful to green belts and the onus is on the applicant to show why permission should be granted.

However, it is also recognised that Green belts have a positive role to play in providing opportunities for outdoor sport, outdoor recreation, access to the open countryside for the urban population as well as securing nature conservation interest.

4.2.2 Statutory Plan Policies

Enfield Unitary Development Plan		
Policy ref	**Summary**	**Comment**
Specific Environmental Policies (II)		
EN9	To resist development on/adjacent to the Lee Valley Special Protection Area, SSSIs sites and local nature reserves unless no adverse effect on nature conservation can be demonstrated	The environmental policies are in the majority standard protective policies that enhance and improve the area to the benefit of both the immediate population and visitors. The Area of Special Character status is also referred to within the Lee Valley Regional Park Plan.
General Green Belt Policies (I)		
G1 G2 and G3	To support the principles of the Green Belt by maintaining established boundaries, resisting inappropriate development, enhancing the environment therein and by promoting active management.	This reflects national guidance
Specific Green Belt Policies (II)		
G4, G5 and G6	To promote the principles and practice of countryside management and enhance the landscape of the Green Belt and to Areas of Special Character (AOSC) Specific reference is given to the need to enhance areas of degraded landscape within the Lee Valley AOSC	The Lee Valley AOSC was designated following the proposal by the Countryside Commission, English Nature, English Heritage and the London Ecology Unit to identify some areas as "Heritage Land". The local authority has not adopted this name but the designation of AOSC is equally as protective. Given the obvious encouragement for enhancement works, policies are endorsed.
G7,G8, G9 and G10	Preserve existing and promote new woodland and hedgerows within and adjacent to the Green Belt using native species and encourage maintenance programmes	These policies reflect national guidance are endorsed

Enfield Unitary Development Plan		
Policy ref	**Summary**	**Comment**
G29, G30	To have regard to the importance of the Lee Valley Regional Park for recreation and nature conservation and where possible to improve public access and landscaping planting	Control over development within the Regional Park, notwithstanding its Green Belt status within the Borough, is slightly different from that over other areas of Green Belt. Waterbased and water related development is particularly important and access to these is encouraged
G31, G32 and G33	Through the Green Belt Management Plan, promote informal recreational use of the Green Belt, promote public rights of way and increase public access to the countryside	A series of public footpaths and rights of way run through the study area. These policies are therefore endorsed although clarification is required as to the scope and nature of the Green Belt "Management Plan".
O6 to O9	A series of policies which advocate Green Chains as important links through the Borough. Encouragement is given to a strategy which would link the Metropolitan Open Land areas	Strong emphasis is placed on the value of Green Chains which improve access between open spaces, river corridors, canals etc. Such links are indicated on the Proposals Map and include one link into the Enfield Lock area. The Lee Valley Regional Park is acknowledged as already fulfilling the goals of a Green Chain and is designated as such by the Park Authority. As part of this are proposals to improve the Lee River Navigation towing path.

LBE Policy II G29 - refers to the importance of Lee Valley Regional Park for recreation + nature + sites provided for in Lee Valley Park Plan (not mentioned in this study). Are the Thames Waters Land sites specifically provided for in LVRP plan or is the plan being reviewed + will it pick this up?

Policy G29 - refers to some flexibility for sites as marked in the Park Plan. Green Belt

Waltham Forest Unitary Development Plan		
Policy ref	**Summary**	**Comment**
Strategic Policies		
Environment		
SP1	To maintain and enhance the natural and built environment of the Borough by, ensuring that new development or changes in use enhance their surroundings; promoting an Environmental Priority Area, conserving and enhancing areas/buildings of historic/architectural value; protecting the Green Belt and Metropolitan Open Land; conserving/enhancing open spaces within the urban area which are valued for leisure; nature conservation, recreation or community purposes, protecting Green Chains	
Leisure and Recreation		
ENV17/18	The local authority can designate areas of Special Character	Although the Borough of Enfield has designated the Regional Park as an Area of Special Character - this does not appear to be the case in Waltham Forest
ENV21	Encouragement for the conservation, protection and enhancement of the archaeological heritage of the Borough	All the land lying between the built area and the reservoirs within the Borough boundary is designated as an Archaeological Priority Zone
ENV23 and 24	General protection of land within the defined Metropolitan Green Belt, in accordance with PPG2	All the land lying between the built area and the reservoirs within the Borough boundary is designated as Green Belt
ENV28, 29 30 and 31	Protection of sites of nature conservation importance, including SSSIs and Local Nature Reserves and encouragement for the preparation of Management Plans for all sites of Nature Conservation Importance and the improvement of Visitor Facilities	The land immediately abutting the reservoirs is designated in part as a SSSI, a Principal and Local site of Nature Conservation Importance

Waltham Forest Unitary Development Plan		
Policy ref	**Summary**	**Comment**
ENV32 and 33	Protection of existing Green Chains and the promotion of further land as part of the Chain	An existing green Chain runs along the eastern edge of the corridor study area, generally following the boundary of the Regional Park.
LAR1, 2 and LAR3	Loss of any recreation land will be resisted unless an equivalent or better recreation facility is provided within the Borough Specific protection is given to all Parks within the Borough and the enhancement of facilities to meet the need of users.	This would appear to allow for new forms of recreational development within the corridor area
LAR8	Support for the Lee Valley Regional Park Authority in its aim to increase the range and quality of leisure and amenity provision, including measures to improve access to and within the Park, development of water areas for recreation and nature conservation, development of a footpath through the Park and general measures to maintain the quality of the environment	The Lee Valley Park Path is designated as running along the eastern bank of the River Lee Navigation ie though the corridor study area.
LAR9	Encouragement for the development of water-based recreation	Providing this does not have a detrimental affect on the environmental quality of the area, this policy is supported
LAR16	Encouragement for the appropriate access to all existing and proposed leisure facilities	This is seen as reflecting other policies which encourage access to the corridor area and Regional Park

Lee Valley Regional Park Plan Part One : Strategic Policy Framework (Approved 1998)		
Policy ref	**Summary**	**Supporting Statement**
Land Resource Policies		
Policy L1 1 - Openness	The openness of the Regional Park should be protected and enhanced by: i) ensuring no development in or adjacent to the Regional Park adversely affects the open character of the Park; ii) protecting its boundaries and distinguishing the built up area from the open space of the Lee Valley; iii) recognising the role of the Regional Park as part of the strategic network of open spaces in the Region; iv) identifying, protecting and enhancing Green Chains, wildlife corridors and the linear Extensions linking with the Lee Valley; and v) avoiding built development which compromises the purpose of areas of Green Belt and Metropolitan Open Land	Safeguarding the land resource to meet the leisure, recreation and nature conservation needs of the Regional population is a key purpose of the Regional Park. The openness of the Regional Park is one of the fundamental features of the park. Development in or adjoining the Regional Park has the potential to affect adversely the characteristic of openness. Green Chains and wildlife corridors are a valued concept which add to the structure of the region and enhance its open character. Built development should not compromise or adversely affect the open nature of the Regional Park or the purpose of Green Belt and Metropolitan Open Land.
Policy L2.1 - Protection	Proposed developments within or adjacent to the regional park (including the re-use of existing buildings) should not i) prejudice the implementation or provision of leisure, recreation, nature conservation, environmental and landscape improvement, or ii) harm the amenity, environmental quality and visitor enjoyment of the Regional Park.	New development in or adjacent to the Park also should not detract from the environment or harm visitor enjoyment of the Park. There will be occasions when limited built development may be required to support leisure and recreational activities (eg a visitor centre or clubhouse) .

Lee Valley Regional Park Plan Part One : Strategic Policy Framework (Approved 1998)		
Policy ref	**Summary**	**Supporting Statement**
Policy L3.2 – Regional Role	New buildings, changes of use or other development for non-Regional Park purposes should be located within existing established areas and should not adversely affect the amenity, environmental quality, visitor enjoyment or openness of the regional Park, or the implementation of leisure, recreation, nature conservation or landscape improvement proposals.	Greater use should be made of sites which are adjacent to water. Refurbishment of buildings adjacent to water adds attractiveness to the waterside, and can provide infrastructure for the boating, tourist or leisure industries. Waterside buildings adjacent to the Regional Park boundary can contribute to the revitalisation of the waterways and be made more attractive for water users.
Policy L3.3	Planning and development briefs and design guidelines should be produced and publicised to guide development briefs and encourage landowners and developers to develop and use land in support of the aims of the Regional Park and the implementation of the Park Plan.	Not all land within the Regional Park is used for Park purposes. Pressure exists for continued development of land for non-Park related purposes. Development that does not contribute to the purpose or role of the Regional Park will be resisted. Circumstances may exist in which some activities or limited development will have a negligible effect on the valued characteristics of the Regional Park, such as, its openness, nature conservation value and environmental quality In these cases, consideration may be given to development for non-Park related purposes. It is envisaged that the areas in which this may occur are those areas that have existing established development or buildings and in which new development will not compromise the openness of the Park or the implementation of Park related proposals. To ensure that the land resource is used in a manner that will achieve the purpose of the Park, planning and development briefs for sites and design guidelines for different character areas of the Park should be prepared.

LVRP Plan Part Two : Approved 13th April 2000
(extract of Plan enclosed for addition to study).

4.2.3 Columbia Wharf + Thames Water owned land.

- Proposals for leisure facilities in Green Belt.
- LVRPA officers are concerned about the two proposals. Particularly that case studies could be used prescriptively as basis for an actual planning application. The Authority find little justification for such development given its context in the Green Belt. If case studies are to remain in their current form reference will need to be made that LVRPA does not endorse the proposals + new development will need to be considered in relation to Part Two of 2000 plan.

4.2.3 Development of Thames Waters Land

All the above statutory plans contain strong protective environmental policies, firstly, supporting the principles of the Green Belt by maintaining established boundaries, resisting inappropriate development and enhancing the environment. Secondly, promoting the informal recreational use of the Green Belt and the importance of the Lee Valley Regional Park for recreation and nature conservation

However, the policy framework appears to allow for new forms of built development that would support leisure and recreational activities within the corridor area as long as the new development in the Park does not detract from the environment or harm visitor enjoyment of the Park e.g a visitor centre or clubhouse The Park Plan advocates greater use should be made of sites which are adjacent to the water incorporating boating, tourist or leisure uses in order to contribute to the revitalisation of the navigation

For built development within the Green Belt and the Lee Valley Regional Park to be acceptable, new development must not adversely affect the amenity, environmental quality, visitors' enjoyment and openness character of the Park.

Two of the case studies contained in chapter 7, attempt to illustrate how different forms and scale of the built recreational development could be sensitively sited within the Green Belt and the Lee Valley Regional Park without detracting from the environment or harm visitor enjoyment of the Park.

- Columbia Wharf case study (section 7.7) – community fitness centre including small sports hall and bar,
- Area North of North Circular Road (section 7.10) – water recreation centre

The development of certain sites within Thames Water's ownership for leisure and recreation purposes could have an important role to play in regeneration and economic development of the corridor and the Park.

4.2.4 Recommendations

Planning Briefs

This report suggests that planning briefs for waterside sites within Thames Water's ownership for leisure and recreation purposes are prepared jointly by the London Borough of Enfield and Thames Water in consultation with Thames Water, Lee Valley Regional Park Authority, British Waterways, and the Environment Agency It is important that the planning briefs include design and development guidelines with respect to the following in order to ensure that any new development must not adversely affect the amenity, environmental quality, visitors' enjoyment and openness character of the Park

- appropriate types of built development,
- siting, orientation and scale of new waterside buildings,
- appropriate landscape treatment

Planning briefs should assist in reducing conflict and help ensure development within or adjoining the Park is not inappropriate

4.3 Linkages and Industrial Interface

4.3.1 Visually Unattractive Waterside Edges

The interface between industrial development, and the navigation and the Lee Valley Park are of particular importance. The main industrial areas located adjacent to the navigation and the Lee Valley Park include the ~~Brimsdown Industrial Estate~~, the Meridian Business Park, and the London Waste Ltd Recycling Centre. In addition the Ravenside Retail Park and Hastingwood Industrial Estate have a significant affect on the environmental quality and character of the navigation

Unfortunately many of the existing industrial premises present highly visible and unattractive edges which adversely affect the public's perception and use of the navigation. Traditionally industrial buildings have turned their back on the navigation resulting in external storage and car parking areas, vehicular access, crash barriers, unattractive high security fencing and floodlighting being located along the navigation boundary In addition, the scale and mass of the industrial units as well as the design and elevational treatment of these functional buildings relate poorly to human scale and provide little visual interest for towing path users and boaters

The environmental quality of individual industrial waterside site boundaries need to form visually attractive edges that create a positive image as well as a green backdrop for the navigation

Careful consideration needs to be given to the siting of appropriate industrial development along the navigation boundary, which through its nature, scale, and mass and level of noise and pollution would have a positive or minimal negative affect on the navigation and Lee Valley Park. Encouragement also needs to be given to the good design of developments, through layout and appearance of buildings, seeking to create positive features along the navigation. Whilst inevitably industrial units need to be designed in a relatively simple and functional manner, greater consideration should be given to the appearance of buildings. This should be combined with incorporating an adequate and effective amount of planting to help integrate the urban boundary with the more rural setting of the Lee Valley Park Buildings should front the canal, where possible, with entrances and the most attractive frontages being located along the waterside This may also be combined with public or private open space.

New industrial development should be sited and orientated to positively address the navigation. Where site configurations are restrictive resulting in new development turning its back upon the navigation with the service yard, external storage and car parking areas being sited adjacent to the waterside these areas to be screened in order to improve the visual appearance and provide site security It cannot be over emphasised the importance of good boundary treatment to enhance the environmental quality of the navigation and the Lee Valley Park as a recreational and ecological resource as well as being an important local amenity

The location and design of existing security fencing has formed intrusive elements within the corridor, and in may instances the presence of fencing has not always been necessary, or could have been more effectively and sensitively designed The careful layout of a development can

remove the need for high level security in some sectors, where unauthorised access is prevented or significantly limited Where security measures are required, these may only need to be at a low level and thus less visually intrusive. Security measures can also be designed to achieve their intended purposes, but to have a more attractive appearance.

Future redevelopment or rationalisation schemes should seek to introduce appropriate boundary treatment that will positively address the navigation. This will be achieved through careful consideration of the following key design considerations

- Siting and orientation of building(s);
- Location and design of security fencing;
- Landscape design to screen industrial activities, create waterside amenity space(s) for site users and opportunities for habitat creation and enhancement

Furthermore, the current SRB "Boundary Campaign Initiative" provides opportunities to improve visual quality of these existing edges as well as for habitat creation and enhancement.

Further guidance on appropriate waterside design, boundary and edge treatment for industrial development is provided in Sections 6.4, 6.12 and 6.13.

4.3.2 Industrial Interfaces and an Offside Walkway

In recent years the London Borough of Enfield has been actively promoting and developing the establishment of an offside walk. Whilst this is laudable in encouraging improved access to the navigation from the Brimsdown Industrial Estate, it does restrict the opportunities to improve the environmental quality of the individual industrial waterside site boundaries. Incorporation of an offside walk restricts the space available for undertaking such improvements and raises concerns regarding personal and site security. Additionally there is the opportunity to increase the extent of waterside habitats along the navigation, which are currently fairly limited. The opportunity to provide such habitats should be fully grasped, as this will greatly improve the nature conservation value of the navigation Public access into such areas would reduce the value of such habitats

However, it is recognised that some access would be beneficial and should be encouraged, but it is the view of the study, that this must be balanced with achieving the other above aims.

4.3.3 Statutory Plan Policies

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1984) 98

Policy ref	Summary	Supporting Statement
Policy L4.1 Quality and Sustainability	The highest standards should be sought for all development within or adjacent to the Regional Park and its linear extensions with the overall aim of ensuring that the environmental quality, amenity, openness and character of the Regional Park is maintained or enhanced.	The quality of development both within and adjacent to the boundaries of the Regional Park will have an impact on amenity and character. It is important that measures are taken at the early stages of the development process to ensure that the quality of all development enhances rather than detracts from the environment of the Regional Park.
Policy LS1.6 Visually Attractive Edges	Visually attractive edges should be protected and those of less value should be improved with particular attention to i) The boundary of the Regional Park and the valley of the River Lee, ii) Approaches to and boundaries of individual sites and facilities which are within the Regional Park; and iii) Main access and through routes.	The edges of the Regional Park are important aspects of its positive image. Where they are green and attractive, they can help to buffer built development and create a green backdrop for the rest of the recreational landscape They also present a strong visual edge to the Regional Park reinforcing its boundary, identity and location Harsh unattractive edges occur where built development abuts the greener nature of the Regional Park without a buffer In these situations, the visual impact of urban development detracts from the green nature of the Regional Park This detraction can degrade the landscape, confusing boundaries and undermining otherwise positive aspects There are tremendous opportunities to improve the edges to create a more positive and visually accessible green landscape
Policy LS2 6 Fencing	Boundary and enclosing elements and structures, including walls, fencing, embankments and planting should: i) Be designed, located, constructed and maintained to contribute positively to the landscape; and	Within, or adjacent to, some areas of the Regional Park, fencing is needed to meet security and health and safety requirements. The design and location of this fencing can often form an intrusive element in the landscape

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1989) 98		
Policy ref	**Summary**	**Supporting Statement**
	ii) Avoid obstructing attractive and important views; or iii) Be removed or modified where they detract from the landscape.	
Policy NC2.6 Biodiversity	Opportunities should be sought, where development occurs, to enhance the overall nature conservation value of a site to provide a net gain in conservation terms.	
Policy W4 3 – Making Best Use of the Water Resource	Planning briefs for all key development sites containing, or adjacent to, water should include a waterways perspective and take into consideration opportunities to improve resource for water recreation and/or wetland wildlife either on site or by linking to adjacent resources.	Future opportunities to make better use of the water should not be lost on the redevelopment of waterside sites

4.3.4 Recommendations

A coherent approach to development and improvement along the navigation will accelerate the process of regeneration This report recommends the use of the following delivery mechanisms to co-ordinate the delivery of the environmental improvement strategy and the area-wide regeneration strategy for the well-established waterside industrial areas within the Borough

Unitary Development Plan Review

This report supports the view that emphasis on reuse of derelict or under-used land within the established industrial areas should be given priority. It is considered that this could be successfully achieved without adverse effects on the environmental quality of the navigation and Lee Valley Regional Park. To address this issue, this report recommends that the London Borough of Enfield give consideration to incorporating policies of and proposals for control and mitigation as part of the Unitary development plan review. The Unitary development plan should contain policies that will ensure that the type of development that, in every location, is appropriate in its siting, scale, form and character that makes a positive contribution to its surroundings Policies of control and mitigation to maintain and enhance the environmental quality, views to and from the waterway, amenity, openness and character of the navigation and the Lee Valley Regional Park. For example, policies seeking to·

- create and improve of visually attractive waterside edges,
- improve the image of the navigation;
- enhance the ecological value of the corridor,
- help buffer the built development,
- create a backdrop for the recreational use of the navigation and the Lee Valley Regional Park

Supplementary Planning Guidance

Waterside Design Guidelines

This report recommends that waterside design and development guidelines for appropriate boundary and edge treatment for industrial developments contained in sections 6 3, 6.7, 6.12 and 6.13 are considered for adoption by the London Borough of Enfield as Supplementary Planning Guidance. These guidelines should assist in the negotiation and determination of planning applications.

The aim of the guidelines is to foster a coherent approach to development and improvement within the visual envelope of the River Lee Navigation, whilst also encouraging high standards of design and site planning.

Production of Development Briefs

This report suggests that the London Borough of Enfield continue to prepare future planning briefs for waterside sites in consultation with British Waterways, Lee Valley Regional Park Authority and the Environment Agency. It is important that the planning briefs include design and development guidelines with respect to the following:

- Siting, Orientation and Scale of New Waterside Buildings
- Appropriate Boundary Treatment

Use of Planning Conditions

To secure appropriate boundary and edge treatment that will create the desired green backdrop, reinforce the openness character of the Lee Valley Regional Park as well as provide opportunities for habitat creation and enhancement this report recommends the use of planning conditions.

Use of Planning Agreements

This report recommends that the London Borough of Enfield continue to make use of planning obligations or agreements to improve the waterside environment, eg secure habitat enhancement and creation, provision of waterside amenity.... (LBE).

SRB Initiative "Boundary Campaign"

The SRB programme recognises the need to improve the quality of the riverside environment, particularly riverside industrial premises This report recommends that eligibility for SRB funding part of the boundary campaign initiative should be subject to the adoption of the guidelines for appropriate boundary treatments, external spaces and soft landscape works contained in Chapter 6 of this report

LBE will not endorse the placing of constraints within the BW study upon SRB eligibility - issue was not discussed with LBE.

4.4 Sustainable Modes of Transport

4.4.1 Waterway Status

Under the Transport Act 1968 and the British Waterways Act 1983, the River Lee Navigation from Hertford to the River Thames at Limehouse and to the tail of Bow Locks is classified as 'Commercial'. 'Commercial' Waterways are principally available for the carriage of freight

4.4.2 Government Pledges and Policy

Recent key changes in national planning policy and guidance have recognised the importance and value of the inland waterway network in contributing to the achievement of integrated transport and land use planning and identify the need to maximise the utilisation of this network to its full potential. These changes include.

- The White Paper on the Future of Transport in July 1998
- DETR publication on "Sustainable Distribution : A Strategy" (March 1999)
- DETR Guidance on Provisional Local Transport Plans (April 1999)
- Revision of Planning Policy Guidance Note 11 -Regional Planning Public Consultation Draft (February1999)
- Revision of Planning Policy Guidance Note 12 - Development Plans (December1999)
- Revision of Planning Policy Guidance Note 13 -Transport: Public Consultation Draft (October 1999)

The White Paper on the Future of Transport "A New Deal for Transport: Better for Everyone", released by the Government in July 1998 released by the Government in July 1998 and subsequent DETR publication on "Sustainable Distribution: A Strategy" (March 1999) state that

> *"the Government will encourage greater use of inland waterways in the movement of freight (including aggregates and waste) and in providing passenger transport where that is a practical and economical option* and will work with *"British Waterways and others to identify realistic market opportunities for inland waterways"*

The White Paper also points that

> *"in addition to carrying freight inland waterways also have an important role to play in providing passenger transport, leisure and tourism opportunities and can provide a catalyst for urban and rural regeneration".*

Furthermore, the White Paper also advises that

> *"Development Plans will be expected to consider the opportunities for new development served by waterborne transport and to give better protection to those sites and routes (both existing and potential) which could be critical in developing infrastructure to wider transport choices such as interchange facilities allowing for water transport".*

The DETR (April 1999) encourages Local Authorities to develop strategies to

- integrate waterways with other forms of transport,
- use waterways for freight transfer;
- promote access to and greater use of inland waterways;
- ensure effective integration with leisure, recreation, tourism and conservation strategies.

4.4.3 British Waterways' Feasibility Study

British Waterways is currently evaluating the feasibility of transporting waste on the River Lee Navigation in London. The "Waste by Water" initiative, a proposed partnership between British Waterways, seven local authorities and private waste management businesses, would use the waterway to carry waste and remove unnecessary lorry movements from the capital's residential streets The waste would be transferred to 12-tonne sealed containers and then conveyed by water on a specially-converted barge to the Energy From Waste plant at Edmonton The initiative could ultimately remove over 45,000 lorry journeys from this part of London

4.4.4 Statutory Plan Policies

London Borough of Enfield and London Borough of Waltham Forest respective Unitary Development Plans contain policies to promote waterborne freight

The London Borough of Enfield Unitary Development Plan (1994) and the Interim Amendments (1997) make little reference to the presence of the considerable water-based recreational facilities within Enfield or the opportunity to use the River Lee and navigation, the Reservoirs and their environs as significant recreation potential. This issue will need to be addressed in the unitary development plan review

The London Borough of Waltham Forest Unitary Development Plan notes that the reservoirs and watercourses provide valuable habitats and attractive features as well as recreational opportunities for anglers and bird watchers and routes for informal recreation. The Plan also states that the London Borough of Waltham Forest will generally encourage the development of facilities for water based recreation However the policies on protecting the waterways for their functionality and the environment are of primary importance and that the development of formal recreation facilities should not conflict with nature conservation or environmental consideration.

* support access to the reservoirs.

However, in contrast the Lee Valley Regional Park Plan contains policies to promote and develop the use of the navigation for recreational boating, canoeing and rowing The Lee Valley Regional Park Plan identifies the need to realise the environmental and recreational potential of the River Lee Navigation as an important Park resource

Enfield Unitary Development Plan (adopted 1994)		
Policy ref	**Summary**	**Comment**
Specific Transport Policies (II)		
T25 and T26	Regard is given to the freight carrying potential of the River Lee Navigation when considering proposals for development adjacent to the waterway The removal of existing wharfage is resisted and encouragement is given to the transfer of freight from the road network to water.	The availability of grants under the terms of Section 36 of the Transport Act is cited in encouraging applications from industrial developers who could develop locks, wharves and piers along the River Providing this has no detrimental impact on the nature conservation value of the area, it is suggested that could result in appropriate waterway regeneration and would bring the area back into beneficial use

Waltham Forest Unitary Development Plan		
Policy ref	**Summary**	**Comment**
Transport Policies		
SP3	To promote an integrated transport network encouraging different modes of travel	Specific encouragement is given in paragraph 1.68 to the movement of freight by water. Walking and cycling are specifically encouraged
Policy W2 4 Protection	Passage for recreational use of navigable waterways should be safeguarded. Development that reduces, restricts or encroaches on the surface area of navigable waterways should be resisted. The safe and uninterrupted use of the towpath and navigation should also be ensured.	High quality environment is needed for the canals to continue to attract visitors. The tranquillity, open space and traffic free environment together with heritage and natural elements in the landscape are key features The Authority will defend the retention of these qualities from commercial developments which might compromise the Park's special waterside character. Boats are part of the river scene and can add colour and life to the waterside without spoiling the environment if appropriately located Residential moorings can obstruct the navigation for recreational users such as rowing clubs or inexperienced pleasure boaters There is also a visual difference between residential narrow boats and houseboats, the former being of a traditional design and capable of cruising. The Authority has published detailed criteria that define appropriate circumstances for the location of residential moorings in the park

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1989) 98		
Policy ref	**Summary**	**Supporting Statement**
Water Recreation Policies		
Policy WR3.7 - Boating	Recreational boating on the Lee Navigation throughout the length of the Park should be improved by. i) additional recreational moorings, where there will be no adverse effect on the rural character of the Regional Park or where it will not restrict other recreational users of the waterways or adjacent land; ii) marina developments, subject to environmental criteria outlined elsewhere in the Park Plan, iii) visitor moorings adjacent to visitor attractions and popular parkland sites, iv) increased services to boaters such as water and sewerage points, local information, signposts etc; v) utilisation of existing canalside buildings for support services; and vi) marketing opportunities to boat owners to visit or to be based in the Regional Park	The popularity of boating over recent years is evident in the increase in registered craft on the Lee and Stort Navigations. In addition, the touring use by craft from outside the Valley brings visitors into the Regional Park for short breaks. Policies recognise the opportunity to develop further the recreational potential of the navigable water in the Regional Park as part of the national waterway system. This would benefit day visitors who hire craft through to the committed cruising fraternity and including activites run by owners of boats offering residential activity holidays for people with special needs. Generally, there is very good provision of boating services along the Lee Navigation exceeding nationally set standards However, there is scope to improve the quality of waterway facilities such as recreational moorings and marinas with visitor facilities such as showers and laundries. The increased demand for services could bring into use existing redundant waterside buildings to complement the role of the Regional Park. The access potential of the waterways is considerable, providing visitors with the opportunity to travel between recreational centres in a relatively relaxed and unhurried fashion Visitor moorings would enable short stops to be made The navigation, with its links to the Stort Navigation, the Regents and Grand Union Canals and to the River Thames, is a very important part of the national network of canals and navigable waterways. Clearly this form of access is also an important recreational pursuit in its own right

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1989) 98		
Policy ref	**Summary**	**Supporting Statement**
		The need for additional recreational moorings has been recognised and safeguards on their design and location should ensure such moorings do not have a damaging impact on natural habitats, the landscape, ease of navigation and other water recreation activities A proliferation of linear moorings can have an adverse effect on the landscape, environmental quality of the Valley and reduce the width of the waterway for other users. Therefore, there may be long term advantages economically and environmentally to investing in marinas and properly serviced off-line moorings. The development of support services along waterways could contribute to sustainable development by providing jobs and a long term future to water recreation. Excessive weed growth can hamper boat movement along the navigation Greater use of the River for recreational boating can increase water flow and help suppress weed growth. Adequate water flows depend upon the continued maintenance of satisfactory water levels and boats using the navigation require a well dredged channel. Sufficient water is required to operate the locks, restrictions on the number of recreational mooring should not be made on the grounds of low water flows in the navigation, consideration will also need to be given to any potential effects on that increase, including the effects of boat speed on the ecology of the navigation Generally, boating is an environmentally friendly way of enjoying the Regional Park and every effort will be made to encourage it.

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1989)		
Policy ref	**Summary**	**Supporting Statement**
Policy WR3.8 - Canoeing	The provision of facilities to broaden the range of canoeing activities should be supported, particularly. i) informal camping sites adjacent to the canal to serve the needs of canoe tourists, and ii) the promotion of canoeing trails where there is no detriment to wildlife.	Proposals for the development of water recreation activities, waterside development or any other development that affects the water resource should be aware of the needs of canoeists, and the potential adverse impact of the proposed development on the requirements of canoeists within the Park.
Policy WR3.9 - Canoeing	The needs of canoeists should be considered in any development schemes affecting the rivers	
Policy WR4.3 - Rowing	Opportunities for rowing should be enhanced by: i) the development of club houses and boat houses subject to environmental safeguards, ii) taking the needs of rowing clubs fully into consideration when proposals affecting the navigation are being assessed	Rowing is currently undertaken on the navigation and where this occurs capacity is sometimes reached, creating a demand for expansion of existing facilities or additional rowing areas. Inadequate width, a meandering river, water quality, the need for dredging or an increase in commercial traffic can hinder the provision of suitable sites for rowing. Additional or expanded locations need to consider the potential for conflict with other water uses and users. To ensure the continued provision and development of rowing opportunities it will be necessary to consider the needs of rowers when proposals for developments and other uses are being assessed
Tourism and Visitor Policies		
Policy T5.6 – Waterborne Access	British Waterways and other appropriate agencies will be encouraged to improve the level of waterborne access to the Regional Park and to the unique water features The improvements of moorings, marinas, and servicing facilities should be supported	The full potential of the waterways can be more fully utilised, particularly as a means of providing leisurely access to the area. There is scope to improve waterway facilities such as moorings, marinas, and servicing points Initial investigations into canoe touring routes and trails indicate significant opportunities to improve

4.4.5 Recommendations

Freight Wharfage Audit

This report recommends that British Waterways should carry out an appraisal of

- existing wharves along the Lee Navigation in terms of their strategic locations, environmental and commercial considerations and potential for future freight use;
- appraisal of sites along the Lee Navigation that are suitable for freight interchanges, as well as in terms of their strategic location, environmental and commercial considerations and potential for future freight use.

Following any freight wharfage audit of the Lee Navigation, British Waterways should notify the respective London Boroughs of the wharves to be protected and developed. It is recommended that the London Boroughs should protect suitable wharves in future Local Implementation Plans and Unitary Development Plans

Freight Strategy

This report recommends that British Waterways in consultation with the London Boroughs produce a freight strategy for the Lee Navigation. The purpose of this strategy should be to appraise the scope and under certain conditions that the navigation could form part of an integrated sustainable transport system offering logistically solutions to supply chain management and transport planning:

- review opportunities for sustainable distribution in developments and related uses which generate freight, looking at aspects such as design, scale, and location;
- identify where appropriate protect sites both existing and potential which could be critical in developing water transport,
- identify and where appropriate protect realistic opportunities for waterway connections to existing industrial sites adjacent to the navigation;
- identify existing and potential markets including speciality niche markets;
- identify financial incentives for the movement of goods on inland waterways and funding for infrastructure improvements.

Unitary Development Plan Review

Unitary development plan policies should seek to:

- enhance the use, enjoyment and setting of the navigation as part of any future waterside development;
- promote water-based recreation as well as the use of the navigation for waterborne freight;
- promote the use of towing path for walking and cycling.

Policies need to strike a balance between the promotion and development of water-based recreation and the use of the Lee Navigation for waterborne freight.

It is suggested that the London Borough of Enfield gives consideration to the inclusion of a policy within Unitary development plan requiring the following types of on-site transport measures and facilities as part of development:

- the creation and improvement of existing access points to the ~~towing path and the improvement of the towing path itself~~ for pedestrians and cyclists as an integral part of development and improvement schemes on the towing path side;
- the provision of bridge crossings linking new development with the towing path to encourage its use as a recreational route for pedestrians and cyclists ~~(rather than creating a walkway on the offside)~~ as an integral part of development schemes on the offside, where appropriate

Local Implementation Plan

This report recommends that British Waterways are given the opportunity to participate in the consultation process leading to the formulation of the Local Implementation Plan in order to explore the opportunities to:

- integrate waterways with other forms of transport,
- use waterways for freight transfer and to examine how their potential could be maximised with financial incentives, planning encouragement and strategies that will encourage transport of goods between the transport modes;
- promote access to and greater use of inland waterways;
- ensure effective integration with leisure, recreation, tourism and conservation strategies

Production of Development Briefs

This report suggests that London Borough of Enfield continue to prepare future planning briefs for waterside industrial sites in consultation with ~~British Waterways~~ to ensure that the following are promoted and developed

- use of the navigation for waterborne freight and water based recreation;
- use of towing path for walking and cycling

Use of Planning Conditions

This report suggests that the London Borough of Enfield consider achieving the following types of on-site transport measures and facilities as part of development through conditions:

- the creation and improvement of existing access points to the towing path and the improvement of the towing path itself for pedestrians and cyclists as an integral part of development schemes on the towing path side;
- the provision of bridge crossings linking new development with the towing path to encourage its use as a recreational route for pedestrians and cyclists ~~(rather than creating a walkway on the offside)~~ as an integral part of development schemes on the offside, where appropriate

Use of Planning Agreements

This report suggests that the London Borough of Enfield consider securing the following opportunities related to waterside development sites through planning obligations in order to encourage use of navigation for waterborne freight and water recreation, as well as use of towing path for walking and cycling.

- the creation and improvement of existing access points to the towing path ~~and the improvement of the towing path itself for pedestrians and cyclists;~~
- commuted sums to assist in a waterway enhancement scheme in the vicinity of an application site;
- creation or extension of mooring basins and marinas,
- provision of boating facilities;
- introduction of boundary improvements;
- reinstatement of waterway walls affected by development;
- ~~inclusion of commuted sums for ongoing maintenance of towing path as sustainable route and running costs for water buses and passenger boats;~~
- transportation of freight and waste by water.

Maintenance Agreements

British Waterways receives no specific central grant funding to invest in and maintain towing paths. Therefore British Waterways are dependent upon maintenance agreements with the local authorities and funding for access and towing path enhancement works as part of urban regeneration schemes and urban recreational initiatives The latter schemes cover capital costs only and provide no revenue support for ongoing management costs Management and ongoing maintenance are key issues relating to the long-term use of the towing path network as sustainable routes Therefore this report suggests that British Waterways discuss with the London Borough of Enfield and Lee Valley Regional Park Authority the possibility of establishing a towing path maintenance agreement. Secondly, that where future waterside development sites include access and towing path improvements within the planning application, transport assessment and green transport plan, that the ongoing maintenance of the towing path forms an integral part of the overall site management plan and maintenance regimes through planning condition or planning obligations.

4.4 Recreational Use of Reservoir Embankments

4.4.1 Landscape Character

The reservoir embankments of the King George's Reservoir and William Girling Reservoir extend over much of the eastern length of the navigation, and have a significant affect on the visual character of the navigation The steep grassed embankments have a strongly engineered appearance and rise to approximately 6m above towing path level thus restricting views to the east. The reservoirs and their embankments form significant part of the character of the Lee Valley Park.

4.4.2 Operational Safety and Environmental Protection Issues

The embankments and land between them back of the towing path is currently clothed in grass and grazed. Access is limited to operational and safety purpose, with restrictions on use due to structural and safety reasons, particularly the need to monitor structural stability. The embankments and the reservoirs are designated as Sites of Special Scientific Interest and Sites of Nature Conservation Importance, due to their importance as areas for wildfowl and open water. The ecological value of the embankments is unknown and as such an ecological assessment would be useful in ascertaining the current species diversity, improvements that could be undertaken, and whether alternative management would be appropriate

The reservoir embankments provide an enormous potential for influencing the character, recreation and nature conservation value of the land adjacent to the navigation and the Lee Valley Park However, it is very important that any improvements or proposals that are made, fully take into account the operational and safety needs of Thames Water. One of the main operational requirements is the ability to visually check along the line of the embankments to monitor any movements in the slope In order to do this it is necessary to have a clear view along the length of the embankment and thus there should be no visually obstructions such as scrub.

4.4.3 Commercial Viability of Grazing

Furthermore, consideration needs to be given, if there are to be changes to grazing in particular the removal of grazing in areas, to the overall viability for grazing on Thames Water land Thought also needs to be given to the cost of any changes to the future maintenance and management of the embankments and if increased who pays the additional cost.

The case study "Reservoir Embankments" within Chapter 7 illustrates the potential opportunities for creating a visual interest, through public art, on the embankments, but still retaining the operational requirements of Thames Water Consideration should also be given to improving the grassland for its herbaceous interest, following an ecological assessment

Between the toe of the embankment and the towing path are areas of open grazing, which have less operational constraints and provide greater opportunities for improvements The case study, "South Marsh: Ponders End" within Chapter 7, illustrates the type of habitat, and possible access and educational improvements that could be undertaken. Other habitat improvements and opportunities for public art should be considered at other points along the navigation, but should always take into account Thames Water requirements stated above

4.4.4 Recreational Access Issues

There is also the possibility of allowing public access between King George's Reservoir and William Girling Reservoir, providing a link between the navigation and towing path with the Lee Valley Pathway, and allowing views across the reservoirs However, there are significant safety issues to Thames Water in allowing the public access across the reservoirs, and they would need to be convinced that public safety could be ensured. Any fencing proposals to prevent public access to the water would also need to be sited and designed to create the minimum of visual intrusion.

4.4.5 Statutory Plan Policies

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1998)

Policy ref	Summary	Supporting Statement
Policy W1.1 - Sustainability	A strategic approach to the management of water should be adopted which i) Addresses a sustainable future for recreation and nature conservation; ii) Assesses the full environmental impact of any proposal on the proposal site and on the group of waterbodies of which it is part; iii) Protects areas of high biodiversity; iv) Identifies limits of acceptable change and targets for improvement; and v) Identifies the most appropriate use for each waterbody and agrees the appropriate level of use of each site.	The future strategy for management of the water resource should aim to protect the balanced use of the whole water resource. The needs of the Park's catchment for water recreation have to be considered and sites which are physically suited to water recreation identified. The current and potential value of sites for wildlife must also be evaluated. The most appropriate contribution each area of water can make to achieving a fully integrated system will be identified. In identifying the most appropriate use for each waterbody and agreeing the appropriate level of use of each site consideration will need to be given to many factors including the statutory requirements of other agencies Non-Park compatible development may seek to locate within the Regional Park due to the availability of water, attractive waterside sites and the proximity to London. They, too, may need to consider whether their proposed development meets the principles for sustainability in terms of economic development or transportation (eg the movement of freight by canal rather than road or rail). The Authority's strategy for the management of water is to aim to address the balance between nature conservation and recreation over the long term, whilst safeguarding the resource form inappropriate development.

Lee Valley Regional Park Plan Part 1 : Strategic Policy Framework (approved 1998)

Policy ref	Summary	Supporting Statement
Policy W2 3	Development proposals on water resources should have no adverse effect on: i) Enjoyment by visitors; ii) Wildlife value; iii) Water quality	Proposals should be accompanied by a statement which assesses environmental impact on the waterway system as a whole Developments which have an adverse impact should be resisted. Impacts on the water environment, ecology and recreational opportunities could be felt well beyond the development site area. The Authority acknowledges that much water exists for purposes other than leisure and nature conservation and it recognises that operational needs of water supply flood relief and navigation may not always be compatible with the remit of the Regional Park.
Tourism and Visitor Policies		
Policy T3.1 - Developing the Image of the Park as a Unique Leisure Resource	The focus and priority of future development should be on those resources that are unique to the Park and/or that offer the opportunity to provide unique or special visitor attractions Proposals which make the most of the Regional Park's resources, improve quality and standards, avoid local duplication and which broaden the services and facilities available to visitors should be supported, subject to overriding environmental concerns	A resolution of the "regional versus local" issue may be found by developing the stronger, more coherent, image for the Park and using it to communicate a clear identity

4.4.6 Recommendations

Improvement Schemes

This report recommends that Thames Water give consideration to undertaking an ecological assessment, commissioning detailed design work and the implementation of habitat improvements and opportunities for public art, access and educational improvements, illustrated in the case study "Reservoir Embankments" and "South Marsh: Ponders End" contained within Chapter 7

Water Management Strategy

This report recommends that Thames Water give consideration to the preparation of a water management strategy for King George's Reservoir and William Girling Reservoir in consultation with the Lee Valley Regional Park Authority and London Boroughs to evaluate the recreational potential (for angling, canoeing, sailing, wind surfing, water skiing, model boating and sub aqua) and the nature conservation value of these waterbodies.

- LVRPA have already completed a water management water strategy for the park inc. King George's Reservoir - copy enclosed.

5.1 Development and Improvement Opportunities

This section briefly discusses the development potential of key sites within the corridor. Site specific recommendations for improvements are included within the Action Plan within Chapter 8 and the Landscape Evaluation Report in Appendix B.

1. Rammey Marsh

This is an area of open land along the north western boundary of the corridor which is dominated by the M25 flyover. A location close to major transport arteries and opposite the Enfield Island Site makes it potentially a high profile development opportunity. However, comprehensive development of this site is unlikely to be considered to be appropriate due to the site being located within the Green Belt and an Area of Special Character. Therefore, any development proposals would need to comply with planning policy as well as take account of the development constraints arising from the planning and environmental designations in order to ensure the siting, scale and use of development does not detract or damage the visual and ecological qualities of this area.

Opportunities should also be considered for improving the ecological and landscape qualities of this area, particularly through further habitat creation.

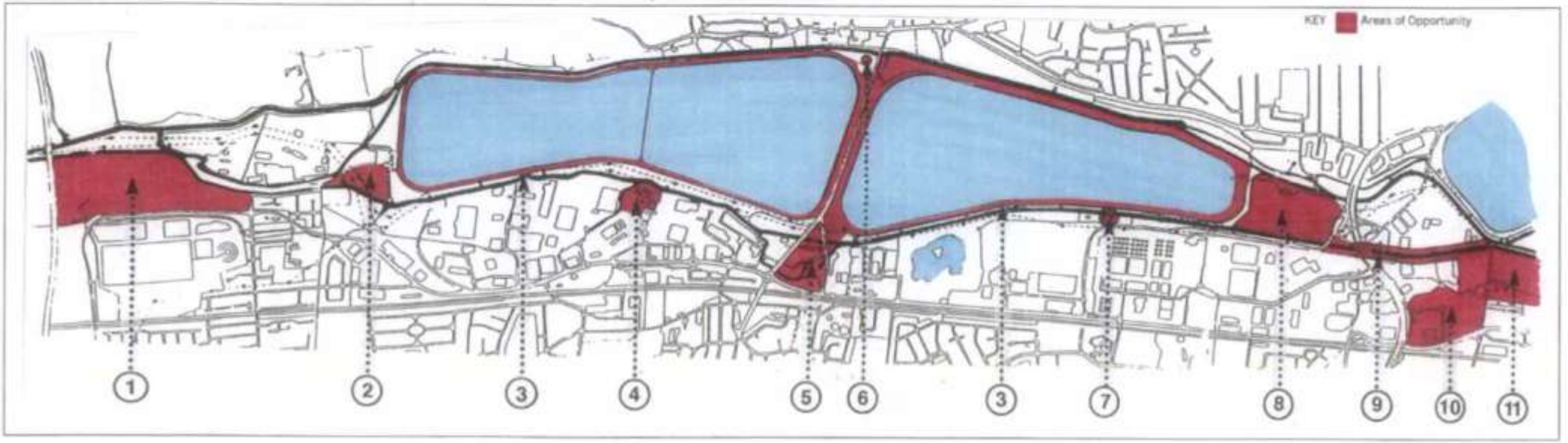
2. Swan and Pike Area

This area is located in close proximity to the Enfield Island and Enfield Yard forming a visual gateway to the reservoirs and the Lee Valley Park. The site currently has a mix of uses, including an attractive copse and historic basin, now establishing as a water haven for wildlife. The site also offers a range of facilities such as angling, seating, a public car park with access to the navigation, a turning and waiting area for local buses, and fields used for grazing.

The grazed land to the south of the car park is bisected by a disused rail line and overhead power lines. These structures have a detrimental affect on the environmental quality and appearance of the area. However, these should be used positively where possible.

This area is located within the Green Belt and therefore development is likely to be restricted to improvements for informal recreation within the grazed fields. There is scope to develop this site for informal recreation purposes with the site being close to a large residential area, and being a gateway to the reservoirs and the Lee Valley Park.

The case study "Swan and Pike Area" included within Chapter 7, illustrates the type of improvements that could be undertaken. The case study demonstrates how existing features and assets can be developed and managed and the grazed fields enhanced for habitats and recreation, encouraging public access and educational opportunities. Any improvements will need to take account of loss of grazing and revenue on the land and any operational requirements of Thames Water.



3. Reservoirs

The open water of the reservoirs, associated banks and buffer zones all provide a valuable asset to the Lee Valley Park. The reservoirs are designated as Special Sites of Scientific Interest and Sites of Importance to Nature Conservation, in recognition of their importance as areas for water fowl and open water. The embankments and buffer zones also have a significant effect on the character of the Lee Valley Park, but also provide good opportunities for improving the visual qualities and nature conservation value of large areas of land adjacent to the navigation However, there are significant operational, environmental, commercial as well as health and safety constraints on the use of land associated with the reservoirs as discussed earlier in section 4.5 The case study " Reservoir Embankments" included in Chapter 7 illustrates the types of improvements that could be implemented.

4. Johnson Matthey

This redundant 3.8 hectare industrial site has been earmarked by London Borough of Enfield for redevelopment. Located in Brimsdown, the site has been identified as a key opportunity site which could create new employment opportunities and bring a considerable environmental upgrade to the waterfront in the area

The site is located adjacent to Mossops Creek, an attractive tributary, where there have been improvements to its environmental quality and recreational access There is a good opportunity to extend the improvement in the quality of the area, to the land associated with the former Johnson Matthey site The case study "Johnson Matthey/Leggett Waterfront" included in Chapter 7, illustrates how new development on the site could positively address the navigation and provide amenity opportunities for site users eg external seating areas

London Borough of Enfield has had extensive discussions regarding appropriate uses, siting and orientation of new buildings as well as on access improvement opportunities. This study encourages building on this work, but seeks to improve access through the site rather than creating a new riverside walkway. This approach provides the opportunity to develop the waterside as an area of private access with establishment of new habitats

5. Ponders End

This area provides an important node within the corridor, being centred at a crossroad of movement, for vehicles, cyclists and pedestrians. To the west is Ponders End Station and the key artery crossing the Lee Valley Park, the Lee Valley Road bisects the area The Linkage and Nodes Study Report contained in Appendix C, highlights the importance of this area and the need for pedestrian and cycleways There are opportunities to improve the appearance of this area, removing the recently vacated industrial buildings on the Columbia Wharf site which have been earmarked for demolition, enhancing the navigation and towing path environs and improving the environmental quality of the Ponders End Water Meadow As such the area provides good opportunities for redevelopment and the provision of new facilities.

The surrounding land around the Navigation Inn (the Grade II listed pump house which was converted into a pub/restaurant) is relatively undeveloped water meadow primarily used for grazing and water utilities, the presence of which restricts the type of use the land can be put There is potential for area wide environmental improvements which would create a more attractive and accessible location

The Columbia Wharf area is located between road bridges which dominate the locks and restrict the visibility. The land to the east of the locks is vacant, although remnants of former use are apparent On the west side of the locks are low quality industrial units, lock house and a crane associated with the former commercial use of the canal on the Columbia Wharf site This area represents considerable potential for redevelopment and improvement, particularly with scope for access creation and improvements which are investigated within the case study "Columbia Wharf Ponders End" contained in Chapter 7 The case study illustrates the type of development that is likely to be considered appropriate in planning, operational and commercial terms The land to the east of the navigation, lies within Green Belt, and thus subject to more stringent planning controls over development resulting in very limited opportunities for development. ~~However, it is considered that this site could be justified as an 'exceptional circumstance' within current planning policy on green belts~~

There are opportunities to consider re-designating sites within green belt in UDP review (LBE).

The area to the south side of the Wharf Road bridge, adjacent to Columbia Wharf, called South Island Moorings also provides opportunities for improvements. The site lies at the confluence of the River Lee Navigation and the River Lee The site currently provides moorings and basic facilities for narrow boats as well as limited parking provision. It is suggested that the redevelopment potential of this site should not be considered in isolation but considered within the wider Ponders End redevelopment context.

6. Sailing Club and Lee Valley Road

The land to the south-east of the King George's Reservoir and immediately north of the Lee Valley Road is occupied by a sailing club. This site provides an opportunity for improving the environmental quality, including improved pedestrian and cycle access. The sailing club provides access to the reservoirs for formal recreation and is an area which would benefit from access/facility improvements

7. Picketts Lock

Located on a long straight section of the navigation enclosed by vegetation on either side, the presence of pylons dominate the of the lockside environment. Although this is a relatively attractive location that provides one of the few access points onto the towpath from the western side of the navigation, to date the recreational opportunities the site offers have not been realised.

The Lock is abutted to the north and south by the Shell Gas Depot and Ushers Yard respectively. The neglected appearance of the lock and lock cottage, and the nature of the adjacent developments have a negative impact upon the perceived visual and environmental quality of the area.

There is an opportunity to develop the lock cottageand associated land, and improve access in the area including parking facilities Pickett's Lock presents an invaluable opportunity for enhancing the area, creating a new gateway to the navigation and establishment of new recreational opportunities, e g. pub/restaurant with attractive waterfront.

Land to the south of Pickett's Lock has been identified as 'Sites Intended for Development' Any development of this land should improve the quality of the waterway environment and utilise the waterspace, in keeping with the vision of this being a gateway site

should be ~~omitted~~ omitted - too prescriptive (LBE)

8. Land South of William Girling Reservoir

The land is currently partially used as a soil recycling facility and has elements of water treatment utilities. Its location however does present significant opportunities for future improvements, although these will be subject to Green belt restrictions. Accordingly, any improvements should reflect its location within the Green Belt and the Lee Valley Park.

This land has already been identified by the Lee Valley Regional Park Authority as an important location, providing a great opportunity for creating new landmark, celebrating the landscape. Careful consideration needs to be given as to how best to achieve this, so that it becomes a successful facility at the heart of the Lee Valley Park.

9. North Circular

This area consists of a narrow site to the north of the North Circular, currently occupied by the Edmonton Sea Scouts and a small scrap yard and is dominated by the presence of the London Waste Ltd Recycling Centre, and the banks of the navigation to the south of the North Circular. The narrow site has good access off the North Circular, and presents an opportunity for a waterfront development. Any appropriate development, would also have the benefit of improving the visual appearance and use of this area.

The case study "Area North of North Circular" contained within Chapter 7, illustrates the potential opportunities for redevelopment of this site. One of the key objectives is to encourage the creation of a landmark building adjacent to the North Circular that clearly links with the navigation. The case study indicates a possible Water Recreation Centre as one way of achieving this, and providing an appropriate land use with commercial opportunities.

The adjacent land to the south of the navigation, is occupied by the industrial estates of the Ravenside Retail Park and Hastingwood Industrial Estate. These suffer greatly from poor, low grade land uses, with neglected and derelict buildings, porto-cabins, vehicular access and crash barriers along the waterfront.

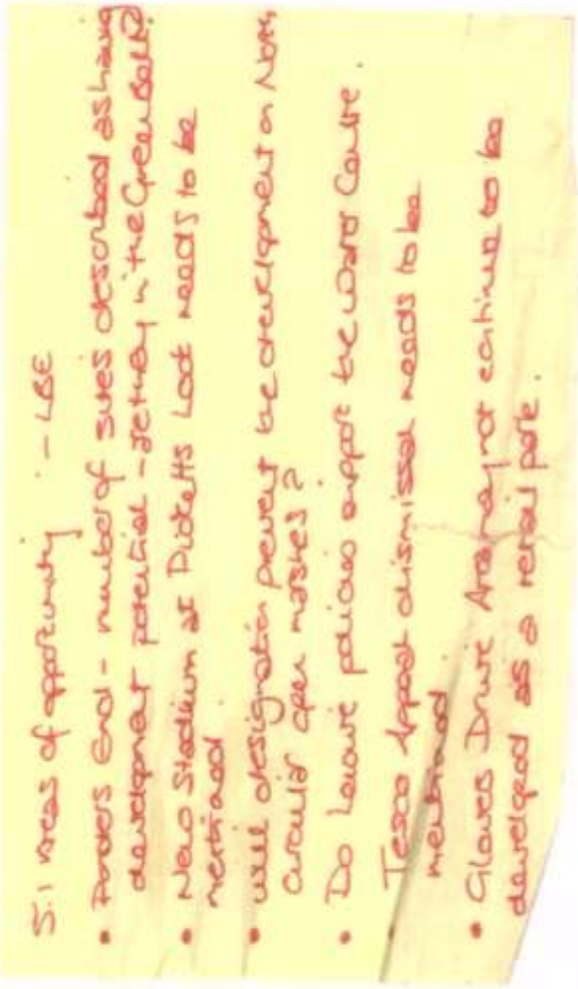
This lies at the centre of the Lee Valley Park and would thus greatly benefit in from improvements in the appearance of this area, and the study encourages such improvements. Both sides of the navigation would benefit from redevelopment and reorganisation of spaces, and making better use of the waterside location. There is also a good opportunity to upgrade the towpath in this area and/or establish a new riverside walk which would link the reservoir area of the navigation with the open area of Tottenham Marshes. The case study "Area South of North Circular" identifies how this could be achieved and gives possible solutions for access improvements and mooring opportunities. Refer also to Section 4.3 for guidance on the relationship of the industrial interface with the navigation.

10. Glover Drive Area

The Glover Drive Area lies off the North Circular Road and west of the navigation. The area has been subject to food and non-food retail development and it is likely the area will continue to develop as a retail park. The site adjacent to the navigation is currently used as a concrete crushing and transfer station, which is considered to be inappropriate and unsympathetic type of waterside development. Therefore this site and the open marshes site located to the south should be earmarked for redevelopment in the medium – long term.

11. Tottenham Marshes

The Tottenham Marshes comprise of three distinct marshes which lie immediately to the south of the study corridor. There is the opportunity to develop a gateway feature embracing both the environmental value of the Marshes and the importance of the navigation as a recreational and environmental resource.


5.1 Areas of opportunity - LEE
• Ponders End - number of sites described as having development potential - getting in the Greasbolt?
• New Stadium at Pickets Lock needs to be networked
• Will designation prevent the development on North Circular open marshes?
• Do leisure policies support the Water Centre.
• Tesco Appeal dismissed needs to be networked
• Glovers Drive Area may not continue to be developed as a retail park.

5.2 Water Related Recreational Use Opportunities

1. Rammey Marsh Lock

Environmental and service improvements associated with the existing on-line long term and residential moorings should be developed in discussion with the Rammey Marsh Cruising Club.

2. Enfield Island Site

The recent housing development on this site includes a shallow length of water and a basin that has a traditional narrow boat as a feature. There is no connection to the rest of the water system. Unfortunately, this water feature provides no scope to develop water-based recreational opportunities.

3. Enfield Yard

Opportunities to develop moorings linked to the existing dry dock facility should be incorporated as an integral part of the overall redevelopment scheme for the Enfield Yard site.

4. King George's Reservoir (North)

A feasibility Study should be commissioned to develop a recreational strategy for the reservoirs including a specific action and management plan for this particular reservoir which investigates:

- opportunities to utilise the reservoir for water related recreational uses and activities
- requirements for land based facilities associated with existing and potential development water related recreational uses and activities
- means of reconciling nature conservation, water safety and operational interests with any potential water related recreational development
- management and maintenance implications of utilising the reservoir for water related recreational uses and activities.

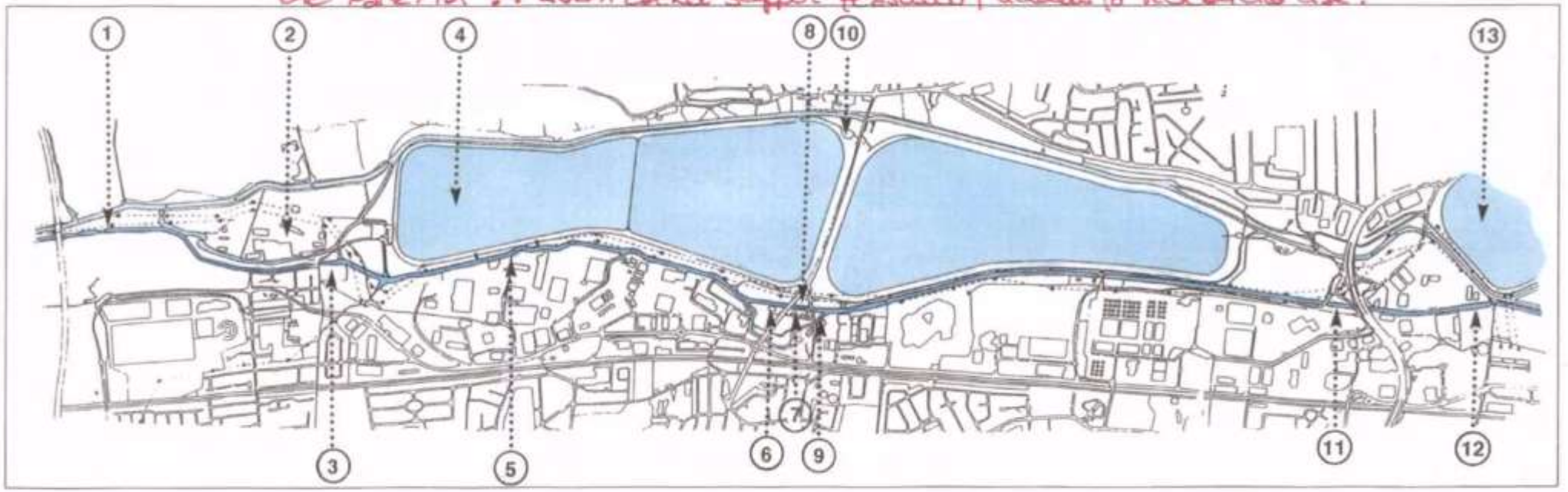
5. Millmarsh Lane Boathouse

Case study "Millmarsh Lane" contained within Chapter 7, suggests existing Millmarsh Land Boathouse site could be redeveloped to create a waterside café and a focal point for small boat activity, such as rowing boat hire, or canoeing.

6. Navigation Inn

Case Study "Navigation Inn: Ponders End" within Chapter 7, illustrates mooring, associated service facilities and access improvements.

* North Basin of King George's Reservoir has been designated 'Nature conservation Priority' in LVRPA Ward Management Strategy + the Park Plan ∴ LVRPA cannot support feasibility studies for recreational use.



7. Columbia Wharf

Improvement and possible relocation of existing boating service facilities (toilet and Elsan disposal block) should be considered as part of any wider redevelopment scheme. As illustrated within case study "Columbia Wharf: Ponders End" included in Chapter 7.

8. Columbia Wharf – Off-side

Case study "Columbia Wharf: Ponders End" within Chapter 7, illustrates the development potential of the small parcel of land owned by Thames Water located adjacent to the towing path. Further investigation will be required to determine:

- commercial viability of such use;
- whether development would be acceptable in planning policy and designation terms (with the site being located within the Green Belt);
- the potential of the waterspace to safely accommodate uses such as rowing or canoeing.

9. South Island Marina

Opportunities to provide boating service facilities and access improvements should be developed. 1

10. King George's Reservoir (South)

King George Sailing Club is one of eight sailing clubs in Lee Valley Park and is a regionally important venue. It provides facilities for dingy sailing and some wind surfing.

A feasibility Study should be commissioned to develop a recreational strategy for the reservoirs including a specific action and management plan for this particular reservoir as outlined in point 4.

11. Deephens Wharf

Case study "Area North of North Circular" included within Chapter 7, illustrates the redevelopment potential of the Edmonton Sea Cadets' site to accommodate a high profile rowing club and opportunities to introduce environmental improvements.

12. Leeside Road Waterfront

A planning application has been lodged for the redevelopment of this waterside site to accommodate the non food retail outlet 'Ikea Store'. The waterfront to this site could form an attractive and secure long term mooring site. However, this would be dependant on the towing path not being relocated along the waterfront, or if this does occur, ensuring that there are separate access and security arrangements. This is illustrated in case study "Leeside Road Waterfront" within Chapter 7.

13. Boundary Reservoir

A feasibility Study should be commissioned to develop a recreational strategy for the reservoirs including a specific action and management plan for this particular reservoir as outlined in point 4.

5.3 Proposed Linkages and Connections

5.3.1 Brimsdown Cyclepath and Footpath Study*

The Brimsdown Cyclepath and Footpath Study produced by Urban Initiatives in December 1997, for the London Borough of Enfield advocated the development and improvement of ten routes within the area as shown below.

* Should go in appendix (LBE)

As part of the Linkage and Nodes Study produced by Waterway Environment Services a review of these ten routes was undertaken. A copy of the linkage and nodes study is included in Appendix C. The Linkage and Nodes Study supports the development of these proposed routes, except the following:

- NS2 (Offside Walk) – completion of the recently implemented section near Mossops Creek through to Millmarsh is recommended to provide a through route. Otherwise the route will largely replicate the towpath, with little additional benefit, whilst losing the opportunity to provide areas of new woodland, scrub and marginal aquatic habitats in addition to areas of open space. However, it is recognised that there is a need to provide additional crossings of the navigation to make the towpath more accessible from the Brimsdown Industrial Estate.
- EW3 (East Duck Lees Lane) – the number of accesses on to this road, combined with the extent of parking on the road, make this an unsuitable and potentially hazardous route.
- EW4 (Lockfield Ave) – the route is unsuitable for the same reasons as stated for EW3.

The combination of the northern section of NS2, using the disused railway line, the northern section of NS3 crossing the Prince of Wales open space, linking with NS1 or continuing along EW5 is also seen as an important strategic route together with Lee Navigation towpath. This will create a north-south link from the existing housing to the north-west of Enfield Lock and the new housing to the north-east, to the Industrial Estate and the more southern parts of the Lee Valley Park.

5.3.2 Proposed Cyclepaths and Footpaths

In addition to the proposed routes identified in the the Brimsdown Study and supported by this study, the Linkage and Nodes Study contained in Appendix C recommends the development of the following additional routes:

- if the existing foopath/cyclepath between Brancroft Way and the Small River Lea is extinguished, an alternative route is proposed linking the disused railway bridge to Mollison Avenue. This will provide a direct link to one of the main north-south routes through Brimsdown;
- a footpath/cyclepath along the bottom of the railway embankment, linking the Lea Valley Roundabout to Ponders End Station. This will continue the strategic Mollison Avenue north-south route to link with the important transport node of Ponders End Station;
- a footpath/cyclepath connecting Lea Valley Roundabout through to the Navigation Inn and Columbia Wharf. This could form part of a redevelopment of the Lee Navigation Waterfront as illustrated in the Ponders End Case Studies. This could then be linked with the Ponders End Lock bridge connecting to the towpath, before a new footpath/cyclepath heads east along the north side of the embankments of the Lea Valley Road. This would then reconnect to the Lea Valley Road, with a recommendation that the proposed cycleway, from the roundabout to Wharf Road, is continued to Chingford. The route would provide a strategic link from the Ponders End residential area to the east side of Lea Valley Park and the Lee Valley Pathway;
- Wharf Road provides a suitable route and a logical way of linking the Ponders End Station to the Lee Navigation and Lea Valley Road; and
- there is potential for a recreational route across the King George's Reservoir that would provide a important new link from the Brimsdown area and River Lee Navigation across the Lea Valley Park to the Lee Valley Pathway. However, before any route is considered, Thames Water need to be happy that this would be appropriate from an operational viewpoint and that any health and safety issues could be satisfactorily addressed.

It is recognised that there is a need for additional crossings of the navigation, and these are proposed as follows:

- formalise the existing crossing of the railway bridge near Enfield Lock;
- the implementation of the bridge crossing adjacent to Mossops Creek; and
- potentially a bridge crossing at the end of Millmarsh Lane, used as a "Green Commuter" route.

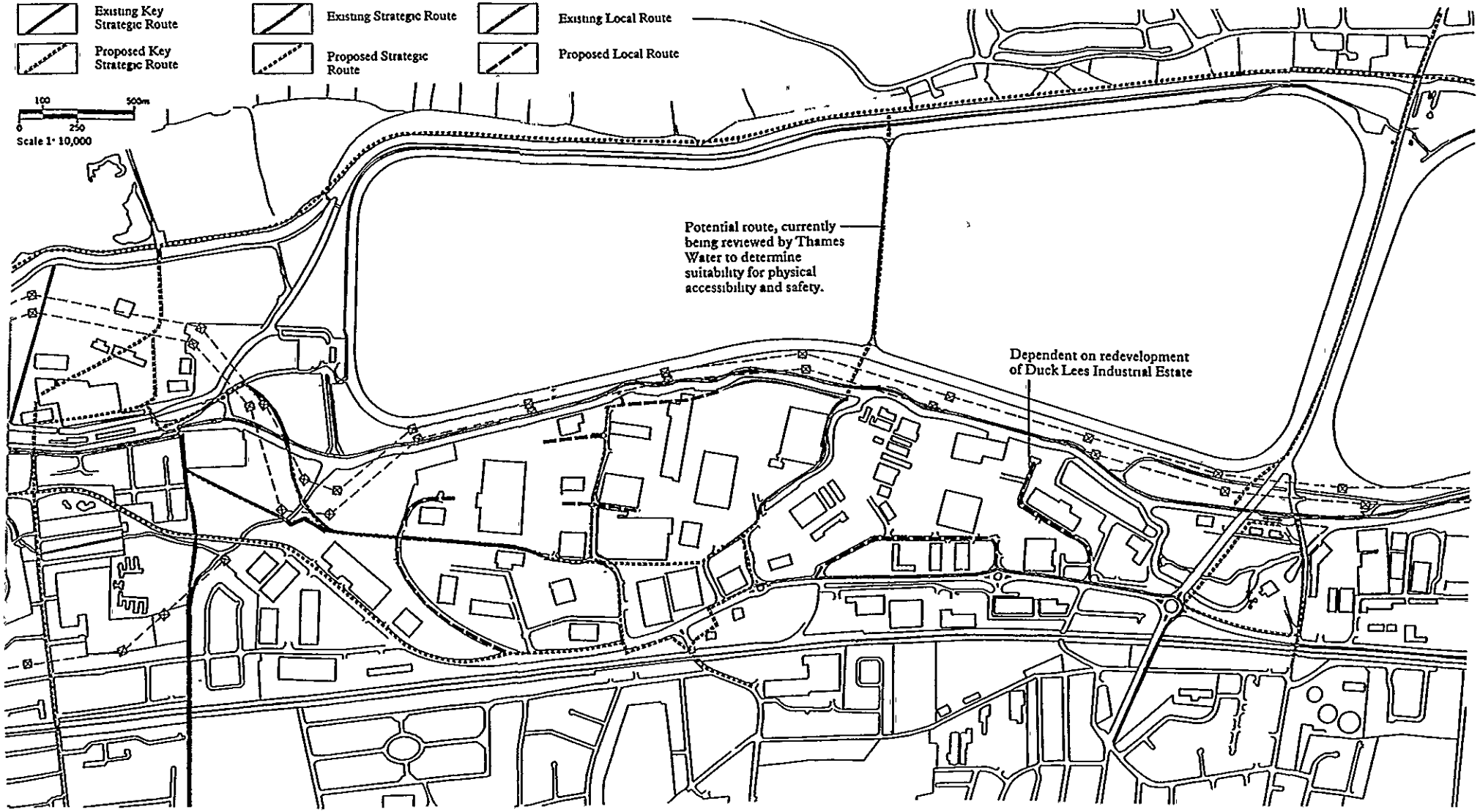
The Linkage and Node Study also makes recommendations on

- encouraging the use of cycle and pedestrian modes;
- security of industrial premises;
- security of site users;
- orientation of buildings and their access points; and
- screening unsightly industrial premises.

5.3.3 Towing Path South of North Circular Road

The towing path is currently of very poor environmental quality, poorly demarcated and restricted by a vehicular safety barrier potentially causing conflicts between towing path users and commercial vehicles

As part of this study options have been considered in case study 7 11 "Area South of North Circular" to address the current situation.


KEY
Existing Key Strategic Route
Existing Strategic Route
Existing Local Route
Proposed Key Strategic Route
Proposed Strategic Route
Proposed Local Route
100 0 250 500m
Scale 1: 10,000
Potential route, currently being reviewed by Thames Water to determine suitability for physical accessibility and safety.
Dependent on redevelopment of Duck Lees Industrial Estate

5.4 Marketing, Education and Interpretation Opportunities

5.4.1 Marketing Strategy

Leisure and recreation as well as the quality of the built and natural environment all have an important role to play in regeneration and economic development initiatives. The navigation and the Lee Valley Regional Park are significant in terms of both their direct impact (providing employment opportunities in the leisure, tourism and recreation sectors) and indirect impact (encouraging people to live and work in the Borough of Enfield because of the quality of the environment).

A multi-faceted marketing strategy is considered necessary to develop appropriate marketing delivery mechanisms to capture the following key themes that have emerged from this study:

- The London Borough of Enfield are marketing the development of the Borough as a new business location exploiting the opportunities stimulated by the construction of the Channel Tunnel Rail Link. The Borough is also promoted as an attractive environment to reside and work in, with opportunities for formal and informal leisure pursuits;
- Importance of the Lee Navigation as a key strategic and linear wildlife/green corridor to be safeguarded from development and recreational pressures;
- The Lee Navigation has a vital social role to play through the provision of publicly accessible areas for informal recreation and educational purposes. There is recognition of the under-utilisation of the Lee Navigation as a recreational and tourism resource and the need to encourage its use as a means of improving quality of life;
- Improvement and management of the environmentally poor quality industrial premises' boundaries adjacent to the Lee Navigation on the offside are seen as a priority to improve the image and appearance of Enfield's waterway corridor. There is also the need to ensure that future redevelopment of waterside brownfield sites positively address the navigation and include appropriate boundary treatments;
- Promoting tourism in the study area by developing and marketing a clear theme and identity for the Navigation, linked with the Lee Valley Park;
- Promoting the potential of the navigation as a sustainable transport route for waterborne freight and the potential of the towing path for cycling and walking.

Currently the navigation is perceived both in planning and visual terms as an edge/barrier/boundary/divide between the established industrial areas and the Lee Valley Regional Park as a recreational amenity. However, the River Lee Navigation provides a great opportunity to provide cohesion and identity to the area. There is a need to develop:

- cohesive identity focused on the navigation;
- a new image for the corridor portraying the navigation as an interface, linking the industrial and residential areas of Enfield with the Lee Valley Park.

Environmental improvements including new access and habitat creation and ensuring new developments are sited and orientated to positively address the navigation, will improve the perception, raise the profile and attract people to the waterside and the Park.

Waterways can bring cohesion and identity to an area made up of a variety of different and often incompatible uses and environmental quality. A coherent approach to development and improvement along the navigation will accelerate the process of regeneration. There is a need to co-ordinate the delivery of the environmental improvement strategy included in this report with the area-wide regeneration strategies produced by London Borough of Enfield's economic development unit. Furthermore, it is suggested that the waterway corridor is designated and promoted as an "investment priority area" within the Borough. Potential marketing themes for this designation include:

- "Enfield by Water"
- "Business in the Park"
- Channel tunnel link context

Furthermore, it is suggested that the marketing strategy could explore the following branding ideas:

- Rename an existing business/industrial estate to reflect waterside location
- Ponders End – marketing opportunity as an activity node/destination within the corridor
- Consider a distinct identity for the Lee & Stort Navigations. (To be discussed with British Waterways as an issue relating to corporate identity.);
- Ensure new developments take their identity from the waterside – through marketing, adverts, etc.

Recommendation

This report recommends that the partnership give consideration to commissioning a marketing strategy to develop the key waterway themes and explore further the ideas listed above.

5.4.2 Promotion and Education Opportunities

An important strand of any marketing strategy for the area will be the production of a promotional strategy. There is a need for the production of well co-ordinated promotional material that will encourage use of the waterway corridor. A promotional strategy should aim to:

- create a positive image of the waterway, relying particularly on the relatively undiscovered open spaces which the towing path links and connects to;
- provide information and educational resource material and should target groups such as local schools and community organisations in ways which will appeal specifically to their needs and interests. Analysis of visitor surveys at similar locations reveals that as many as 90% of all visitors to a waterway can be local residents from within a 10 kilometre radius and the recreational value of the Lee Navigation therefore deserves to be publicised and promoted;
- create an enhanced image of the waterway corridor and should include information and interpretation material as well as a programme of events and activities.

This study and its proposals present the opportunity to further raise the profile of the Navigation and capture the interest of local residents. Many of the ideas put forward in this report will impact upon adjacent landowners, and a public launch to which all waterside businesses and landowners would be invited, together with local community representatives, would be an ideal forum in which to present the proposals and generate support for the range of environmental improvements.

British Waterways already promote a range of information tailored to waterway users, and recently produced the national introductory pack "Water and the Waterways" aimed at young children and tailored to the needs of the National Curriculum. The opportunities to use the Navigation for educational purposes are immense, all within a well managed and safe environment. At a more local level, British Waterways regularly co-operate in the production of education packs for specific sites or locations. The length through Enfield naturally provides the opportunity to work in partnership with the Lee Valley Regional Park Authority, but there is also scope to work with local industry, the local education authority and the community based initiatives which London's Waterway Partnership can currently support. Positive partnerships between local business and the local community can work to their mutual advantage and can help to generate a sense of pride and local ownership in the waterway environment.

Furthermore, it is suggested that the promotional strategy could explore the following ideas:

- Boundary campaigns - mechanisms to encourage site rationalisation and boundary improvements by owners of existing waterside industrial premises could include:
  - Grant assistance through London's Waterway Partnership;
  - Free or subsidised design service;
  - Opportunity for competition/annual award;
- Improve liaison and joint working between BW/LVRPA/LBE/local tourism officers and organisations, etc. This could be achieved by focussing on working in partnership on regional and local marketing strategies and thematic marketing initiatives eg signage and production of leaflets, videos etc;
- Discuss the study and proposals with London Development Agency, Regional Cultural Consortium and Regional Tourist Board:
  - promote/celebrate navigation with road signs on bridge crossings;
  - ensure and create important linkages to the London Loop walk, the work of London Walking Forum, etc;
- Build upon the promotional benefits of the Waterway Millennium Festival 2000 in Enfield through:
  - Continually raising awareness of the Borough's waterway. The various leaflets, display boards, educational materials and other interpretative material and artwork resulting from the festival will be of lasting benefit and should help support the continued interest in Enfield's waterway regeneration;
  - Historical information and community input gathered during the programme will be stored in a small archive to be maintained by the Lower Lea Project Education Service, and will therefore be available to support further promotion and educational work.
- Regular "Enfield by Water" newsletter targeting different audiences such as schools, local residents, visitors and local businesses;
- Waterway Web site linked to the different partners' sites, providing up to date information and comment about Enfield's waterways and associated events;
- Other education and community initiatives such as:
  - Developing the profile of, and activities associated with, Redwatch community boat;
  - Development of a floating resource centre for schools;
  - Annual waterway weekend/festival in Enfield : "Boating in the Park";
  - Establish volunteer lock keepers and waterway wardens scheme. Programme of volunteers to man the locks on 'high days and holidays' through out the boating season;
  - BTCV type activities such as hedge laying and tree planting. The Swan and Pike site could be used as a pilot scheme;
  - Encourage oral history/reminiscence - this could be community led, leading to eg video, play/performance, local archive (resource for schools etc);
  - Towing path adoption schemes, eg schools, residents, factory workforce. Encourage pride and ownership in local environment, particularly seeking to influence the new residential community on Enfield Island.

Recommendation

This report recommends that the partnership gives consideration to commissioning a promotional strategy to explore ideas and opportunities.

Should be noted that the LVRPA has a Tour + School Officer & has already developed an extensive programme for education visits including to waterways & the environment. – see leaflet.

5.4.3 Public Art Strategy

Public art can contribute to the visual enhancement of the waterway and create a sense of place with a unique identity. There is an enormous potential for the integration of art works within the River Lee Navigation corridor:

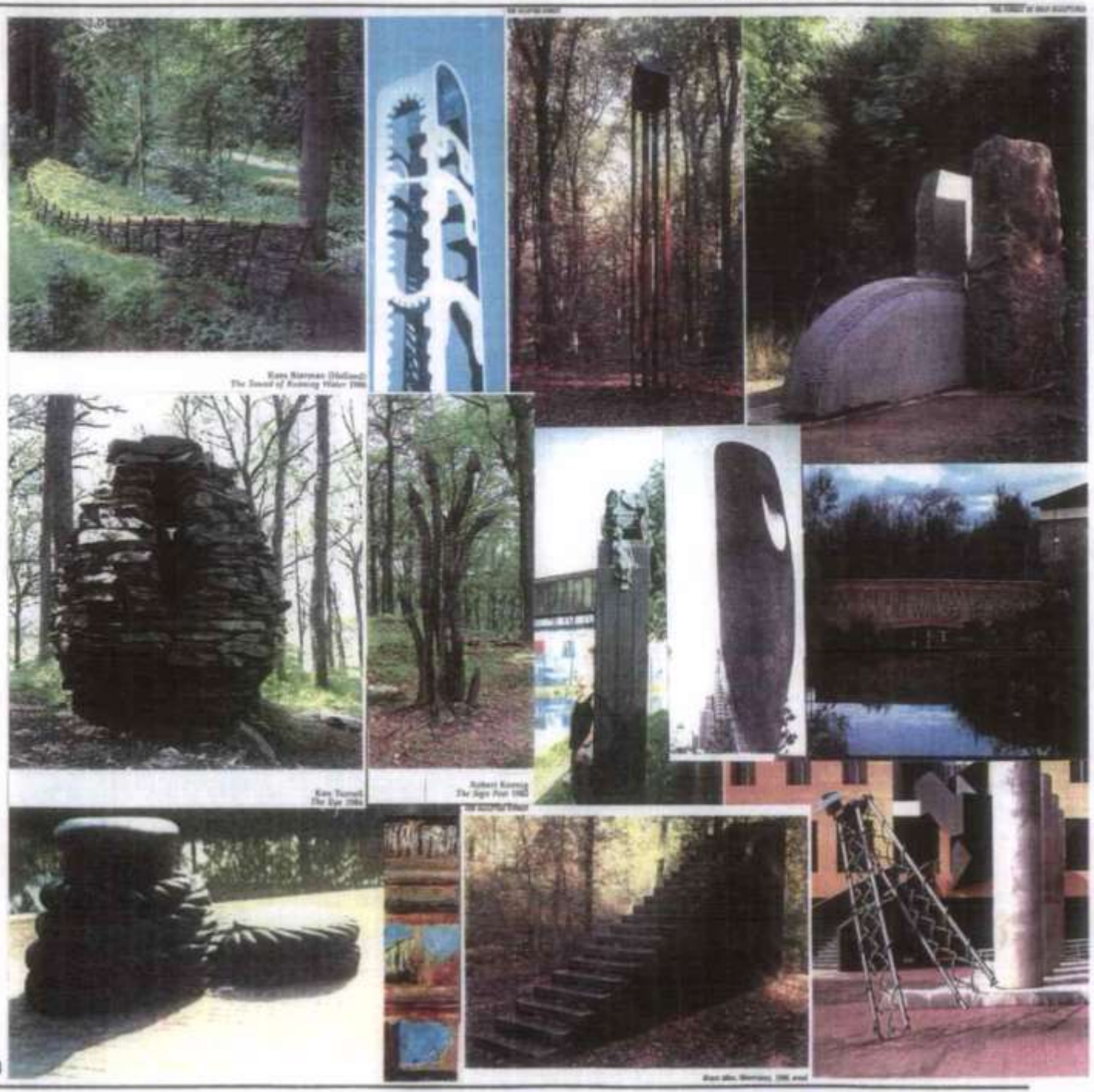
- Art in the Landscape – case study "Reservoir Embankments" within Chapter 7 illustrates the potential opportunities for creating visual interest, through public art, on the embankments, but still retaining the operational requirements of Thames Water;
- Waterside Furniture - the public art theme may be carried through in the design of site furniture, interpretative signs and gateway/landmark features along the navigation eg benches, bollards and lighting to give cohesion and strengthen waterside character;
- Sculptured walling or security fencing - public art has an important role to play in the design of barriers and boundary treatments. The use of unique solutions to boundary treatments adds an element of creativity to an essentially functional site element, as well as character and a sense of place to the waterside.

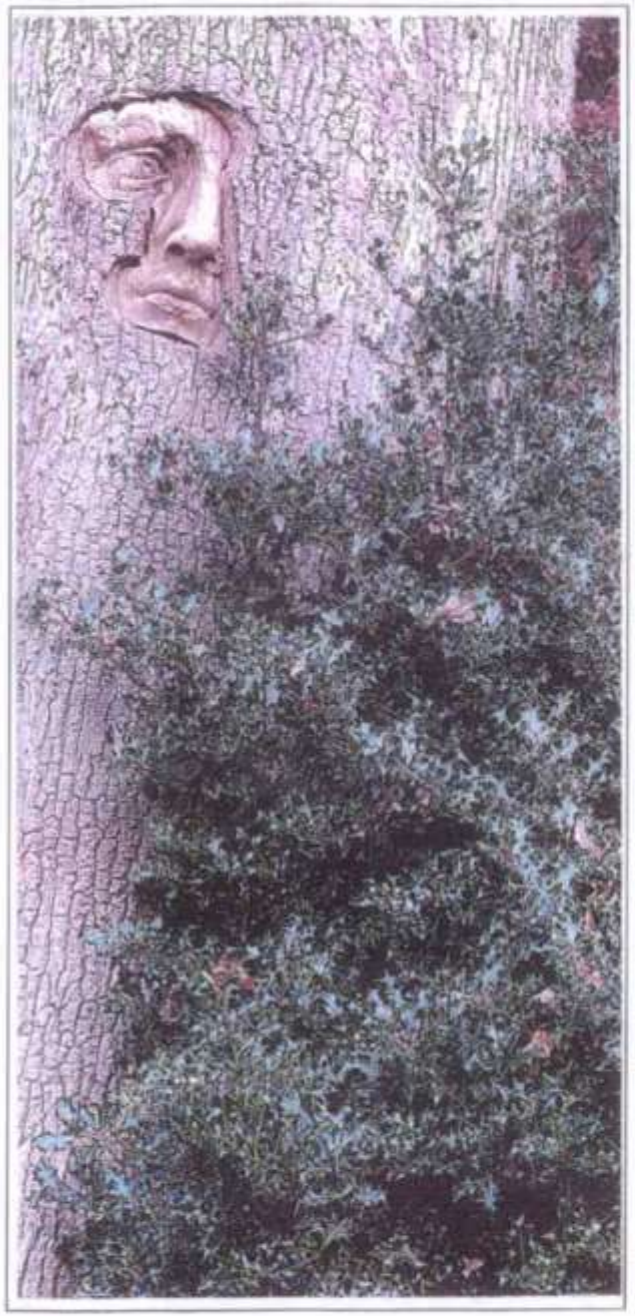
Waterside design and development guidelines for public art are contained in section 6.11.

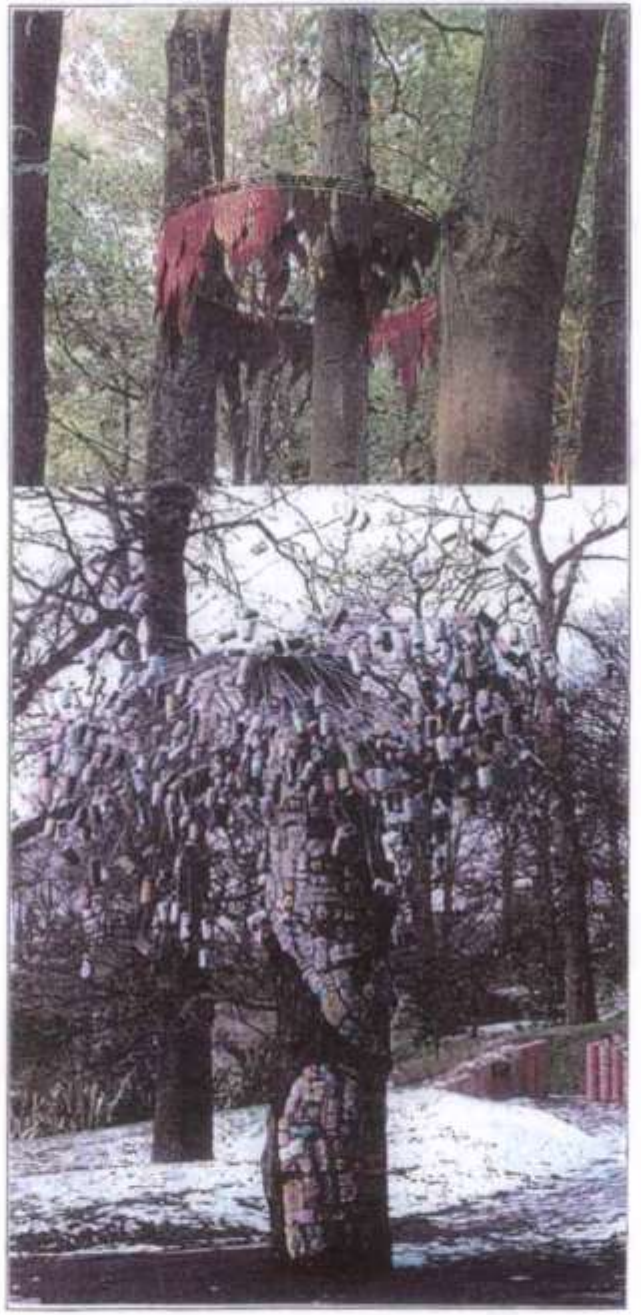
Recommendation

It is recommended that the Partnership give consideration to the production of a public art strategy for the River Lee Navigation corridor in conjunction with neighbouring boroughs and agencies. This strategy could investigate in detail the opportunities for the introduction of the following public art elements within the Lee Navigation corridor:

- information, interpretation and signage;
- waterside furniture, lighting and other manufactured features;
- fencing and boundaries;
- art associated with buildings, bridges, other structures and ground surfaces;
- earthworks and landscape works;
- gateways and entrances;
- landmark features;
- temporary programmes, floating work and interventions.







6.1 Introduction

6.1.1 Objectives

- The aim of the guidelines is to foster a coherent approach to development and improvement within the visual envelope of the River Lee Navigation (ie anything that is visible from the navigation), whilst also encouraging high standards of design, site planning and approach to the environment.
- They also aim to form a framework for both negotiation, guide development control and assist in the rejuvenation of the river corridor
- The guidelines are offered as supplementary planning guidance and are intended to help and assist developers (including existing landowners, statutory undertakers, public utilities, public authorities, and owners of industrial premises) and their agents, in preparing development and improvement schemes.
- The Partners are committed to the enhancement of the waterway, its buildings and its landscapes Poor quality proposals will not receive approval, even where similar types of development already exist on adjacent sites
- The guidelines offer a source of information to help in providing an understanding of the important principles and issues relating to design within the waterway environment

A number of design principles, concepts, and treatments are described These examples show the types of detail which would meet approval, though they are not intended to be comprehensive.

London Borough of Enfield intend to make use of Section 106 powers to improve the riverside environment. The SRB programme recognises the need to improve the quality of the riverside environment, particularly riverside industrial premises. Eligibility for SRB funding part of the boundary campaign initiative will be subject to the adoption of these guidelines for appropriate boundary treatments, external spaces and soft landscape works

LBE would not support this.

London Borough of Enfield and British Waterways will welcome initial discussions with landowners and developers who wish to benefit from the design and construction of attractive waterside spaces Waterway Environment Services has advised on a number of waterside interests on improvement to their immediate waterside open space, and would be pleased to assist in Enfield

6.1.2 Reference Documents

The following documents were consulted in the preparation of these development and design guidelines:

British Waterways' Planning Handbook (draft, currently not published);

London Canals Committee Development Control Guidelines for Canalside Development,

Landscape Design Guidelines – Waltham Abbey to King George V Reservoir, published by Lee Valley Regional Park Authority,

A Strategic Landscape Vision, produced by Landscape Design Associates for Lee Valley Regional Park Authority;

Towing Path Improvement Study, prepared by Land Use Consultants on behalf of Lee Valley Regional Park Authority;

Design Manual – Landscape, prepared by British Waterways.

6.1.3 Framework

The guidelines are presented under the following headings:

6.2 Creating Active and Attractive Waterfronts
6.3 Principles for Creating Successful Mixed Use Waterfront Development
6.4 Principles for Waterside Industrial Development
6.5 Principles for Waterside Residential Development
6.6 Principles of New Waterside Buildings
6.7 Repairs to Historic Structures
6.8 Creating Access to the River
6.9 External Waterside Spaces
6.10 Waterside Furniture
6.11 Public Art
6.12 Boundary Treatments
6.13 Waterside Edge Treatments
6.14 Designing for Waterside Planting and Wildlife
6.15 Crime Prevention
6.16 Water Safety

6.2 Creating Active and Attractive Waterfronts

6.2.1 Design Objectives

- **To create active waterfront developments,** conserve the waterside character, and establish or improve the physical and visual access to the water.
- **Establish an integrated character and a consistent approach, unifying all landscape features** throughout the study area.
- **Creation of an attractive and safe pedestrian and cycle routes** linking the study area with the wider Lee Valley Regional Park and the surrounding residential areas.
- **Protection and enhancement of key views** to and from the River Lee Navigation.
- **Establish a low maintenance,** easily managed and attractive waterside environment with minimal opportunities for vandalism.
- **Creation of a safe and "secure" waterside environment** by providing defensible overlooked spaces without destroying the privacy and intimacy of the public including boaters.

Attractive waterfront development reflecting the character of the waterway

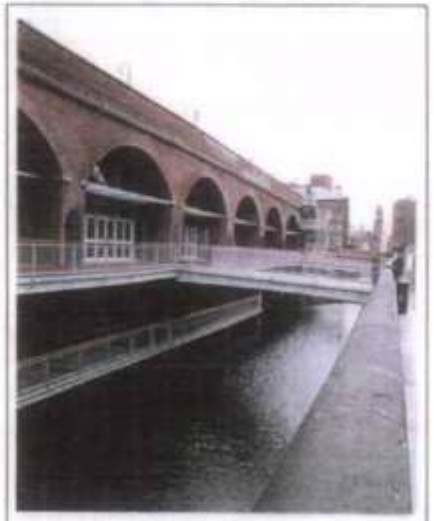
6.2.2 Principles for Creating Active Waterfronts

- Make waterways more accessible, refurbish existing access, create new accesses, construct new pedestrian bridges, and provide clear signposting. Access should safe and easily accessible to all (see Section 6.8 Creating Access to the River).
- Improve waterside environment and towing paths.
- Improve safety with lighting and barriers where appropriate.
- Provide or improve boating facilities, moorings and boat related services.
- Encourage boaters to use a waterfront, as this will greatly add to the sense of place, character and activity along the river.
- Encourage pedestrian generating activities to locate along the waterfront. Ensure that where pedestrian activity is created the increased numbers can be accommodated safely.
- Consider the viability of incorporating a marina. This will greatly add to the activity of an area, as well as being a focus of interest.
- Provide appropriate new visitor facilities.
- Provide interpretation displays, leaflets and other sources of information, including marketing, to encourage visitors to use a waterfront.
- Encourage residents and visitors to explore the river on foot and by water. The longer they stay the more facilities they will use, the greater variety of uses will be attracted.
- Promote recreational, sport and leisure use of the waterways.
- Enhance the refurbishment and promotion of existing visitor facilities, pub and restaurants, and seek to introduce shopping and waterside market facilities as attractors.

- Establish a mixed use waterfront to encourage a variety of uses at different times of day. Particular consideration should be given to evening use of waterfronts.
- Attractive and well designed developments provide interest and variety and will help to attract visitors to waterfronts (see below).
- Encourage waterside events and festivals at distinctive locations. This will assist in drawing people to an area, as well as providing activity in itself.

6.2.3 Principles for Creating Attractive Waterfronts

- New buildings must be sympathetic in scale and character to existing historic waterside structures. Proposals should seek to determine and understand, so as to reflect, the local distinctiveness of the locality, in particular the waterway. There is currently little local distinctiveness within the study area, but what does exists can be seen in part within the Conservation Areas. This character should be used as a basis for further creation of a local distinctiveness, particularly where there is little within the locality of the site. The Partners will seek to provide guidance on the establishment of such a local distinctiveness within the study area.
- Designs should have regard to the historic waterway, urban setting, and regional park context of the study area. Consideration should be given to: siting; orientation; massing; and form of buildings, whilst creating appropriate circulation patterns and public/private open space. Getting the right layout and balance of mass and form, that integrates well the surroundings, will lead to a more dramatic and attractive environment. This will only be of benefit to the River Lee Navigation and the development, but also will give a positive impression of the development to visitors. Proposals should also complement British Waterways' operation of the waterway, and relevant access and servicing requirements.
- Built development should positively address the waterfront, by fronting the water and providing an attractive façade. This single act alone would have a significant beneficial affect on the current appearance of the River Lee Navigation. Only where this is strategically or commercially not practicable or feasible, should a more defensive approach be taken. Where this is the case appropriate screening should be incorporated.
- Where development offers an attractive façade, boundary treatments should seek to be open as possible, within the operational and security requirements of a development. Boundary treatments should be given careful consideration, as they will they will significantly affect the appearance and visual impression of the development, and subsequently the river setting.
- Detailing and materials (particularly affecting their external appearance) should reflect and/or complement the local vernacular architecture and elements within the landscape.
- The arrangement of built form and spaces on waterside sites should ensure that the segregation of public and private spaces is logical and apparent to all using the area without the need to resort to high levels of signage or physical separation.
- Waterfront developments and improvements will be expected to provide a high quality well detailed landscape treatment, using simple and robust details and furniture. This should be consistent with the character, function and scale of the River Lee Navigation and have due regard to the increased recreational use of the waterspace.
- Understand the nature conservation value of river corridors and implement management and maintenance regimes to protect and enhance the variety of habitat. This not only will give benefits to wildlife and the environment, but will also have positive effects on the appearance of the setting of the River Lea Navigation and on development.
- Including public art or similar will add to the character and interest of a waterfront and is recommended as a consideration in appropriate locations.



Retail development integrates well with the historic setting

6.3 Principles for Creating Successful Mixed Use Waterfront Developments

6.3.1 Design Objectives

Development of land adjacent to waterways and the development of the waterbody itself need to adopt the key principles of urban design: permeability; variety; vitality; legibility; visual appropriateness; and richness to create accessible, safe and attractive environments.

These should also establish:

- a strong sense of place;
- create active edges to the waterspace;
- waterspace that is of a human scale; and
- pedestrian comfort and easy access to facilities.

Development should provide a safe environment for users and visitors to the waterside and waterside areas. It is particularly to differentiate between boaters and the general public at mooring positions.

It has been British Waterways experience that the most successful and safe waterside areas are mixed use developments with buildings and spaces overlooking the waterway often accessed from the towing path providing natural surveillance and policing.

Successful mixed use waterfront developments need to:

- provide a balanced mix of uses;
- reduce dependency on the private motor cars by creating environments in which it is safe and easy to walk, cycle, and travel by public transport;
- create attractive linked public spaces with active edges which generate natural surveillance, and consider lighting at access points;
- provide strong linkages and connections within the waterfront locality and to the surrounding areas, particularly residential and recreational and other areas of interest;
- create a character and identity through the design of spaces, streets and buildings, and the relationship/interface between them to achieve a "sense of place". The waterway provides a linear route and can be considered in the same way as a pedestrian street, with buildings fronting the waterway in an active and positive manner, and the creation of linkages to other spaces;
- establish an attractive view of the development both from the towing path and from the water at boat level. Windows should be incorporated into buildings at towing path levels, wherever possible, in addition to other levels. The character of the inland waterway often extends beyond the immediate boundary to create a distinctive visual envelope. The boundary with the waterway can form the public and private interface and has a major influence on the perception of the environment;
- consider the height of buildings in relation to its set back from the waterway, eg if buildings are high and close to the waterway they may create an oppressive character – although this may be acceptable in a central urban location, where this reflects the surrounding setting. This should be incorporated with a balanced mixture and variety of open and enclosed spaces;
- enhance the environmental quality of the waterway corridor. It is recommended that, wherever possible, development should avoid the construction of roadways and siting of car parking areas adjacent to the waterway. Access and towing path improvements should form an integral part of any waterside site development proposals;
- consider holistically, the opportunities for waterbased leisure and commercial development to ensure life and vitality to the waterspace and towing path. The "added value" of the waterspace needs to be fully optimised as a leisure and recreational resource in its own right; and
- try and incorporate a diversity of use, with pedestrian generating activities along the waterfront, and encouraging evening as well as day use.

Canalside with attractive mixed use development within town centre, using traditional and modern materials

6.3.2 Design Principles

- Establish principles for creating active and attractive waterfronts for both public and private use, (see Section 6.2 Creating Active and Attractive Waterfronts)
- A high priority should be given to designing buildings with a high architectural standard which positively address the water and create an attractive waterside setting. Buildings should be sympathetic and where appropriate seek to reflect traditional buildings and style along the navigation
- Development should generally avoid a multiplicity of styles and materials.
- Buildings should provide well designed and interesting facades to the waterside, including relief, patterns, colour or texture. Roof to gable elevations should be designed to provide interest The overall roofscape is important and any new development should present an attractive skyline Exposed roof plant should be avoided, unless it can be shown to be a sculptural feature and an integral part of the overall design concept.
- Industrial development should aim to create interesting and attractive buildings alongside the river. Bland frontages do not enhance the river frontage.
- Be innovative and sensitive to the positive features of a particular location, respect the height, mass and detailing of the existing neighbouring buildings. Not all buildings should be "feature" buildings
- Strike a balance between historical integrity and commercial viability. Ensure that where existing buildings are retained and restored, they are brought back into full and interesting uses. New developments should seek to incorporate traditional materials and features within proposals
- Where particular uses prevent public access ensure bridges are created to maintain pedestrian circulation and routes.
- The development of derelict or redundant sites adjacent to the river should include proposals to enhance its amenity value to provide opportunities for recreation and leisure use.
- New residential developments should recognise the presence and value of the river as a feature within their site planning and layout Housing should be designed to take advantage of waterside views and aspects.
- Whenever possible, waterside development should avoid the construction of roadways adjacent to the waterway. Housing schemes, in particular, should be designed to present a public face to the river or rear gardens with a coherent layout and river frontage

6.4 Principles for Waterside Industrial Development

Industry has played an important role in the area of Enfield and has characterised the River Lee Navigation for many years. It is fully envisaged that this will continue to be the case, nevertheless there is the potential to improve the way industry and business influence the character of the waterway. The nature of industry within the area varies from portacabins and small warehouse developments to large shed/warehouses and electricity sub-station. Most of the industry and business lies to the west of River Lee Navigation, within the Brimsdown Industrial Estate and the Meridian Business Park. which have a significant effect on the character of this side of the river. Industrial developments have created a negative approach to the River Lee Navigation by placing their backs along the river. Service yards, storage areas, etc, are often situated on the riverside together with security fencing.

It is important that only appropriate industry and business are situated adjacent to the River Lee Navigation that will not harm the environment and character of the river. Equally, appropriate planning, design and management are key to ensuring that the environment and character are improved and maintained. The following guidelines are provided to enable this to be achieved.

6.4.1 Design Guidelines *

The Partners see B1 and light industry as being the most appropriate form of industry within the vicinity of the River Lee Navigation. Industrial units should be non-polluting, and should not create noise that is significantly greater than the ambient noise level. They should not have a dominant or visual overpowering effect on the river, in scale, form or height.

The scale, form and layout of industrial and business units should seek to create a positive element alongside the river. The siting of the building is important and should generally be set back, unless it would have a positive effect, in terms of form and architectural style, on the waterway.

Developments should be arranged so that buildings front the river, with all access, service yards being situated to the opposing side away from the river.

Careful site planning is necessary to avoid ugly storage, stockyards, lorry parks and car parking immediately adjacent to the river, which detract from the river setting. Where possible, such features within existing sites should be the subject of landscape or screening schemes. Adequate space should be catered for between the building and the river to allow public/private open space.

It is recognised that it would be unreasonable and not appropriate for industrial buildings to have a high quality architectural. However, there would be an expectation for buildings to be designed well, so as to have a positive impression on the river or to minimise the effect of the building on the river.

An open and active waterfront is typical of the way industry originally addressed the riverside. Careful and imaginative design, in this case using the lock overflow channel as a "moat", avoids compromising security and the need for unsightly fencing.

Boundary treatments naturally have a major impact upon the river corridor. Typically along the River Lee Navigation these are very defensive and have a negative impression on the river. It would be preferable to design industrial developments to avoid the need for security fencing, but it is understood that security fencing may be necessary. The choice of fencing style can have a significant affect on the appearance of the river. Fencing with a more attractive appearance can still be an effective security measure. Planting can also be particularly beneficial in creating a softer, more natural appearance. If densely planted and incorporating some thorny plants, it can also act as a further deterrent resulting in visually inappropriate styles of fencing and railing. Sensitive screening and security fencing are to be encouraged.

Ugly industrial units back onto navigation with storage areas along riverside, creating a negative and domineering effect

* LBE could Design Guidelines "too restrictive" due to the unreasonable detail. will possibly stifle good proposals that don't conform.

6.5 Principles for Waterside Residential Development

Whilst there is little residential development within the study area, where it does occur it plays an important role in the appearance and character of the river setting. It is likely that industrial development will continue to form the main type of development adjacent to the river. However, where new residential development is proposed the following guidelines should be followed to create an appropriate approach and setting for the river.

The following provide principles to good design in relation to residential developments.

- Careful consideration should be given to the design and layout of new development, including; consideration of the reduction of crime, siting and orientation of buildings and spaces, appropriate boundary treatment, landscape design and access to the river. Properties should be of a form, scale density, design, and use materials, that are appropriate to the setting and context of its surroundings.
- Within larger residential developments create a variety of scale, forms and space, by setting back some dwellings, incorporating open space that provides access to the riverside, and provide native riverside planting and habitat creation. Consider the potential for providing long term moorings, available for residents use.
- Where possible, the facades of residential buildings shall be brick faced or brick in combination with other materials.
- The boundary with the river forms the public and private interface and has a major influence on the perception of the environment. Therefore any scheme must create an attractive view of the development from the towing path and from the water at boat level. New residential development should recognise the presence and value of the river as a feature within the site planning and layout. Housing should be sited and orientated to take advantage of the waterside views and aspects, ie fronting the river. Rear and side elevations of dwellings and rear and side gardens fronting onto the river should generally be avoided.

Housing fronts the canal with an area of open space

- Where a site layout does not allow the residential properties to front the river navigation, and is on the offside, then it is important that:
  - there should be no rear access from the riverside to gardens;
  - developments avoid the creation of riverside strips of land that are too small for positive use;
  - the water edge areas are "owned", to avoid problems of security and neglect; and
  - inherent conflict of the interface between the public realm of the river and the private back gardens are successfully resolved, without the need to resort to defensive barriers.
- In these cases boundary design is very important. British Waterways does not consider high walling or fencing installed by a developer or in the future by householders to be suitable along the river edge. The rear garden privacy should be retained by imaginative landscaping, level changes and hedging, eg creation of waterside terraces with the option of private moorings in order to achieve an attractive water frontage. The developer should provide appropriate boundary treatments as part of the development to provide the right approach initially, but also to encourage house owners to adopt the principles of good boundary treatment. Where boundaries are to remain open or treatment is particularly sensitive, it may be worth considering the use of covenant agreements to retain the desired treatment.

Housing fronts the canal with an open and managed boundary

- Waterside residential development should avoid the construction of roadways adjacent to the waterway. This should still enable any residential development to show a public face to the river navigation. The introduction of roads, will destroy the visual and physical relationship between dwellings and the river. Equally car parking, unless very limited, should also be avoided. British Waterways would only consider, an access road to the river frontage, where there is informal shared space, is paved in materials

sympathetic to the setting and the housing is orientated around it and fronting the river.

- Emphasis should be placed on site planning, design layout and orientation to solve issues of security and safety The dwellings and spaces should overlook the river navigation and should be accessed from the towing path. The visual and physical presence of people in the houses and spaces adjacent to the river navigation provides informal observation along the river, giving natural surveillance and policing
- Formal play areas for children should be avoided adjacent to the River Lee Navigation, due to safety conditions
- Wherever possible waterside development should aim to create attractive and purposeful waterside spaces for both public and private use External spaces should be designed to respect the river environment through the use of traditional materials Development should avoid the creation of landside strips of land too small for positive use
- Developments should contribute to the enhancement of the environmental quality of the river corridor. The waterside area should become an integral part of adjoining development and as such their management has to be considered in the context of the development as a whole British Waterways request that access and towing path improvements form an integral part of any development proposals for the site
- The unique qualities of the built and natural heritage provided by the River Lee Navigation can provide an attractive and interesting feature, within a predominantly urban setting, for residential development There is a growing national awareness of the added value and commercial betterment of residential development alongside water. A study by Willis & Goddard of the University of Newcastle stated that, "New residential property built next to a well managed waterway commands a 19% premium value over and above that of an equivalent property elsewhere. This premium effect extends to properties at some distance away from the water."

6.6 Principles for New Waterside Buildings

New buildings must be sympathetic in scale and character to existing historic waterside buildings to ensure that new buildings fit into their surroundings harmoniously.

The following six aesthetic qualities are necessary to ensure that any new building will fit harmoniously into the waterway corridor. However, any proposed building design will not be solely assessed in terms of these aesthetic qualities, but also how the design responds to the building's function, energy efficiency and the way the building integrates into the overall plan of the area.

6.6.1 Aesthetic Qualities

- **Siting and Orientation** - New buildings should be sited and orientated to respect the setting of the historic waterside buildings and to positively address the navigation. New buildings should respect historic building lines to retain the sense of enclosure.
- **Massing** relates to the height, bulk and silhouette of a building. The height of a new building should respect the height of existing waterside buildings and its bulk should not greatly exceed the bulk of any adjoining historic buildings. The new-build elements should complement rather than dominate the existing structures.
- **Scale** A building should be of a relative human scale from the towing path and respect the scale of historic waterside buildings, structures and waterspace.
- **Proportion** relates to the ratio of solid to void in the facade of a building and with the way the window openings are arranged in relation to the solid wall elements. The historic waterside buildings in Enfield tend to have a high ratio solid to void in the facade of the buildings. Preferably a balanced proportion should be sought, appropriate to the nature of the building and the historical character of the waterway.
- **Rhythm** is the arrangement and size of the constituent parts of a facade, eg the window arrangement and roof form. The narrower the bay, the quicker the rhythm, and vice-versa. Again a balanced approach should be sought, appropriate to the nature of the building and historical character of the waterway.
- **Materials** the choice and detailing of materials for external walls, paving, fenestration and roofs, should be sympathetic with the historic urban and waterway fabric, and provide visual interest.

For new buildings to successfully integrate into their waterside surroundings, they must combine the above qualities harmoniously. These criteria are interrelated with each other, eg the choice and use of materials affect rhythm, proportion and scale.

6.6.2 Design Guidelines

Few traditional waterside buildings remain on River Lee Navigation. Today, the river is typified by industrial development much of which ignores the benefits and potential attraction of a waterside frontage. Large warehouses and their associated compounds dominate sections of the river navigation and there are few examples of good modern architecture. There is no strong vernacular in areas adjacent to the river to influence the character of the river. Therefore there is a need to establish a distinctive architectural character and sense of place along the River Lee Navigation that reflects the river setting. The waterside can provide an attractive environment for both residential and employment generating commercial uses, and the following guidelines aim to encourage built development which will benefit the river.

Good scale, mass and rhythm

- The Partners would welcome schemes that would employ modern architectural technologies, but should be sympathetic to the engineering aesthetics of the historic buildings and structures in order to produce a contemporary design appropriate to the setting. However, careful consideration should be given to materials in any new buildings where they are similar to the existing ones, eg stone and brick types and colour, joint size and finish.
- Developments should acknowledge the River Lee Navigation and the unique character of the waterside location, and should be both innovative and sensitive to the positive features of a particular location. New developments should recognise the river navigation as a positive asset to their site.
- Proposals for the re-use and redevelopment of redundant waterside buildings for commercial or residential use will be particularly welcomed where this includes the retention or reinstatement of important characteristics of the buildings and their waterside setting.
- Buildings should be of a form, scale and density to complement the local scene, and should respect existing adjacent sites and landscapes.
- Any proposed redevelopment within any of the conservation areas scheme will need to ensure that:
  - the unity of groups of historic buildings is not destroyed;
  - the historic skyline is retained and protected;
  - new buildings make a positive contribution to the waterside's historic integrity.

6.7 Repairs to Historic Structures

6.7.1 Introduction

There are a number of interesting buildings, bridges and structures that remain along the Lee Navigation. Some of these are listed buildings, and within the study area also fall within two Conservation Area:

- Enfield Lock, Enfield Yard, and Government Row; and
- Ponders Flour Mill and surroundings (see Heritage).

It is important that all work and repairs to waterway structures should be carried out to match the original work as closely as possible. Any work to a listed building or structure requires consent from London Borough of Enfield as the local planning authority. Listed building consent is also required for new development which would affect the setting of a listed building or structure. British Waterways and London Borough of Enfield are committed to the sensitive conservation of the architectural heritage of the Lee Navigation corridor and the following guidelines aim to encourage good practice for both public and private sector works.

6.7.2 Use of Inappropriate Methods and Materials for Repair Work

Methods of repair should ensure best conservation practices. Responding to immediate maintenance and repair needs without an overall restoration and management plan has resulted in incremental loss of the waterway fabric and character.

It is recommended that the following basic principles of repair should be adopted by British Waterways and London Borough of Enfield.

- **Minimum intervention to secure and stabilise structures** - only the minimum work needed to consolidate, conserve and achieve a sound structural condition should be implemented. Some parts of a building decay more slowly than others and a selective approach may be required. Unnecessary replacement of historic fabric must always be avoided. Comprehensive repointing of a building or structure is rarely necessary, and sound old pointing should be left undisturbed. The destructive removal of old pointing to achieve a uniform appearance is unacceptable. Small areas of repointing should be dealt with regularly as items of maintenance.

- **Regular monitoring and inspection of structural defects is important**. Investigation of the condition of materials and of the causes and rates of decay may be necessary in designing repairs. Ideally this work should be linked to engineering inspections. Maintenance should be cyclical and prioritised. Appropriate and sympathetic maintenance work is the best way to reduce the need for repairs.

- **Maximum retention of fabric** - repair should significantly delay the process of decay without damaging or altering the character of a building, or destroying its fabric. Past repairs have often been disfiguring and damaging and the opportunity may arise to remove them. But earlier alterations, including some repairs, may be important to the cumulative history of a building. Gaining a uniform appearance at the expense of a loss of historic integrity is not always desirable, and a balance must be struck. Missing structural elements should normally be put back in the course of repair. Replacement of non-structural elements of a building should only be considered where evidence for the replacement exists, where the replacement can be a close copy of authentic appearance, and when it is certain that no loss of historic fabric will occur. Bogus reconstructions (eg "rope marked" handrails) should be avoided.

- **Use of matching and compatible materials in repair and conservation** - Repairs should match or be compatible with existing materials in terms of dimensions, colour, texture and weathering. Salvaged materials should be re-used wherever possible. British Waterways have developed a directory of building conservation materials. New methods, materials and techniques should only be used where their performance and appearance are known from experience, where design defects or incorrect use of materials occur in a building and where traditional alternatives are not possible.

- **Use of competent personnel with appropriate skills and experience to manage, survey, record, specify and implement works**. A proper understanding of a building and its historic development and setting is necessary before repairs take place.

- **Thorough documentation** - before, during and after. Adequate records of repairs should be kept to inform future maintenance programmes.

- **Strict adherence to statutory controls, constraints and conditions.**

New materials reflect materials of existing building

Owners or managers of historic waterside property are advised to discuss any proposed works with either London Borough of Enfield Conservation Officer or British Waterways' Architectural Heritage Officer, who can advise on appropriate materials for re-use, repair and refurbishment. Contact addresses are shown on page xxx.

6.8 Creating Access to the River

6.8.1 Introduction

The River Lee Navigation was formed for active use with an important principle being accessibility, adding life and continuity to the waterway environment as well as increasing security for users. Increased access should however be balanced with the desire to preserve the tranquil nature and high wildlife potential of some of the quieter stretches of the River Lee Navigation.

It has an important role as a green pedestrian link through the Borough of Enfield. Provision and protection of generous and frequent access points to the navigation is important and should be encouraged if this informal recreational asset is to be furthered Managed access points can help to control abusive activities and balance the needs of people with the needs of wildlife It is important that new routes and access points are attractive and well maintained to encourage greater use of the waterway. This will additionally have the benefit of reducing vandalism, fly tipping and the likelihood of a neglected appearance.

Whilst access is to be encouraged, it should only be considered where it is appropriate; will create a desirable end result; and provision can be made for establishing an attractive well maintained environment The navigation must not be seen in isolation but as part of a wider network of open spaces.

Access should be considered from the following perspectives: physical and visual, and public and private.

Physical Access

Where space allows, adjacent derelict land might be converted into a public pocket park opening onto the navigation to create an inviting entrance to the waterway Access may be provided through the use of green corridors, footpaths and cycleways leading to the river navigation.

Access to the river navigation for private developments should also be encouraged where it involves the positive use of the waterside. Opportunities exist for lunch-time spaces for employees, waterside promenades in association with leisure and retail developments to benefit from the waterside location

Visual Access

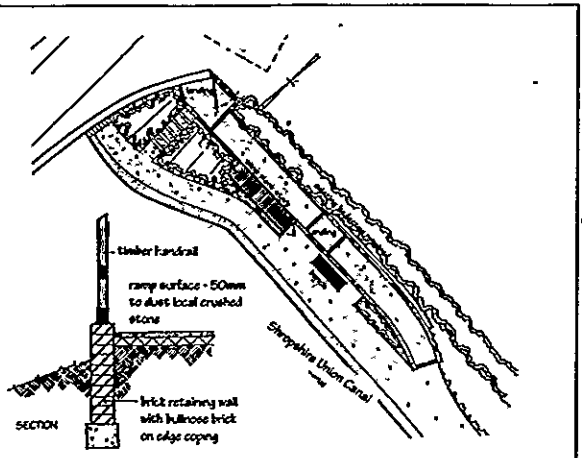
Access may be purely visual, such as a vista along the navigation from a bridge, or the view afforded from; an office, leisure or residential development, overlooking the waterway and adjacent Lee Valley Park. Where such visual access does not impinge upon the character of the waterway, access should be encouraged so that the waterway retains a positive relationship with it surroundings and provides natural surveillance of the towing path environment. Visual access will be either private or public and an appropriate range should be provided, that particularly allowing sufficient public visual access. Development opportunities should consider the potential effect on existing public visual access as well as creating new vistas.

6.8.2 Creating and Improving Access to the Navigation

The following guidelines aim to increase the public and private enjoyment of the navigation through appropriate access provision and design

- Developments which close off existing physical access to the navigation will not normally be permitted unless an equivalent or better opportunity for access is provided in close proximity For any new development which involves the extinguishment of an existing waterside access, British Waterways would expect that it should always be compensated accordingly
- Development should seek to retain public visual access, particularly where there is an important vista or attractive view of the Lee Navigation and Lee Valley Park. Consideration should also be given to avoiding negative impacts on or the elimination of existing private views of the Lee Navigation and Lee Valley Park. Views along the navigation from a bridge or from new development of waterside sites should be encouraged.
- Where there are important vistas or attractive views at strategic locations, consideration should be given to the creation of a "gateway". These are valuable ways of providing entrance features that are distinctive and interesting forms of welcoming people to the River Lee Navigation The value of visual access and gateways is supported in the Lee Valley Regional Park Authority's, "A Strategic Landscape Vision".
- The provision of new public and private access points will be welcomed and the Partners will work to upgrade existing access to the navigation and provide new access points. The design of new access points and the improvement of existing informal access needs careful consideration to encourage the disabled, elderly and push chair users, whilst deterring motorcycles New access points should, wherever possible, be designed to join the towing path at an oblique angle, rather than at 90° for safety reasons and be free of obstructions.
- New access should always be designed in a positive manner, providing an attractive setting to encourage use and improve the character of the area Materials and detailed design should reflect the character of the navigation and create a welcoming entrance to the waterway, as well as providing a safe and appropriate surface for the intended users.
- Where private developments are sited adjacent to the navigation the opportunity for private access to the waters edge or towing path should be exploited.
- Boundary fencing may be set back to provide a more open, inviting, safer appearance enabling the creation of open space and seating areas along access routes (see Section 6 9 External Waterside Spaces).
- The Partners will continue to work to provide signposting and information at significant access points, or where appropriate.
- New mixed use waterfront developments which include night time uses should include the installation of lighting along the towing path, underside of bridges and access points to the navigation as an integral part of the scheme.

- The towing path provides an important function and its linear nature adjacent to the River Lee Navigation is a distinctive characteristic Its retention will always be sought usually in its current location or where a clear improvement to the towing path can be shown to be achieved from an alternative location.
- New waterside development on the towing path side should include the enhancement of the towing path as an integral part of the scheme


timber handrail
ramp surface - 50mm to dust local crushed stone
brick retaining wall with bullnose brick on edge coping
SECTION
Shropshire Union Canal

Attractive integration of ramp and steps enabling access for all

The creation of a new access point or refurbishment of an existing one should be seen in the context of a complete route planning process It is important to consider how any new access would link to other routes, and its place in a wider network of routes. Consideration should be given to; who will be the users, likely destination and desire routes Any route should be designed accordingly.

6.8.3 Design Guidelines

Design should cater for a range of users, principally considering towing path widths and surfacing The following design issues should be considered:

Surfacing
- traditional materials should be used where these do not compromise access for all
- keep the design of surfacing fairly simple.
- the linear impact of resurfacing in the whole river context should be considered, with respect to use and appearance
- materials can be used to reflect changing landuses and to denote different spatial uses within the river corridor eg a length of moorings adjacent to a busy path

Barriers
- consider the need for and location of barriers to separate conflicting uses.
- consider whether motor cycles are likely to use the route and whether they should be prevented through the use of barriers.
- ensure critical dimensions for wheelchairs and cycles (where cycling permitted) are met, where access is provided through barriers.

Signage
- refer to British Waterways' Corporate Design Manual.

Waterside Furniture
- provides an important opportunity for rest and to take in views etc Possible suitable locations should be considered
- carefully consider the location in relation to views, aspect, distance from access points for people with a disability, avoiding conflict with other waterway users, and forming a visual part of the whole river corridor
- design should be appropriate to setting and should consider durability, robustness, vandal resistance, maintenance and cost.
- when appropriate, innovative designs for seating may be considered, eg seating as public art – if there is involvement from the local community, vandalism may be reduced

If access is to be made available to cyclists, contact should be made with SUSTRANS for advice on appropriate design standards, and the location of other cycleway networks.

6.8.4 Access for All

The legacy of the functional, industrial canal/river navigation environment, means there is often limited land available for new access construction. Sometimes the large changes in level to the waterway corridor make it difficult to provide generous easy access for all everywhere However, design criteria and minimum standards can be applied in most cases. Wherever possible, new provision for access at a change of level should be to the highest standard accommodating the needs of all users, and does not conflict with the other objectives eg heritage conservation.

The partner organisations are committed to considering access for all and where any future works are being planned the needs of disabled people (including physically disabled, partially sighted, hard of hearing, etc) should be taken into account.

Before embarking on providing new access points or refurbishing existing ones, a decision must be made about the extent to which the access can be made safe and practical for a full range of users, including parents with prams, the ambulant disabled, and people in wheelchairs, either independent or assisted Consultation should be undertaken with the London Borough of Enfield, Fieldfare Trust, local disability groups and other local access groups

Countryside for All

The "BT Countryside for All" publication was produced by Fieldfare Trust, supported by BT This provides a comprehensive guide to disabled access and is particularly relevant and should be applied to the River Lee Navigation The guidelines mainly cover:

- space allowance and access routes issues - path users/dimensions, reach range, turning space, gradients, path surfaces, steps, handrails and viewing points;
- barriers, furniture, information and amenities - picnic seats and tables, tactile areas, siting and design of signage, litter bins and fishing points,

- network guidelines – advising on ways that disable people and service providers can best work together to understand each others needs and ensure good provision of services,
- transport guidelines – consideration and provision of: appropriate different forms of transport to site for all users; networking, and improving access to transport;
- interpretation guidelines – advice on different types of interpretation and presentation, the gathering of information and compiling to produce appropriate interpretation, and
- information guidelines – planning, deciding on what types of information to provide, and forms of imparting information

The "Accessibility assessment form" could be completed as a guide to whether a towing path route meets the relevant required standards

Waterways for All

British Waterways has set up the "Waterways for All" project with the Fieldfare Trust, in response to recognition that there needs to be formal guidelines to guide BW in the provision of appropriate disabled access [BW currently regard disabled access as being aspect in encourage and enabling access for all users and seek to incorporate this within any new proposals.] However, it was considered important that there was formal guidance to direct the design of proposals and improvements, particularly in reflection of the BT Countryside for All guidelines. Consequently, the "Waterways Access For All (WAFA) – Applying Waterways Access For All principles in the context of Good Design Practice, Heritage Management and Environmental Code of Practice appraisals" was produced in November 1999.

The "Waterways for All" project relates to the development of a programme to encourage access by disabled people to British Waterways' canals and rivers The project has arisen because of a recognition of the need for a comprehensive approach for improving access to the waterways for the disabled, and applying them to the unique and specific circumstances of the waterways. The project covers the needs of people with all types of disability, including people with hearing, sight and learning difficulties, as well as the physically disabled.

British Waterways are committed to improving disabled access to the waterways and see the "Waterways for All" project as an important development of this objective. British Waterways will support development which encourages and enables access for all to waterways

The WAFA outlines the requirement for a Strategic Access Management Plan (SAMP), to provide a strategic overview and help guide decision making. The SAMP serves four purposes:

- to provide a focus for British Waterways statutory responsibilities, identifying improvements, where reasonable, that can be made whilst incorporating issues such as heritage, environment and other user needs;
- targeting sites, facilities and programme changes and then prioritising works that should be included in British Waterway's Business Plan;
- providing local standards for any works affecting access to British Waterways canal/river bridges and facilities; and
- to develop an information and marketing strategy for access improvements.

It is also worth noting WAFA guidance to Stage 1 of an Access Audit for determining the appropriate countryside setting and the standards that would apply. It states.

> "Canals are rarely confined to a countryside setting. They pass through environments that are complex and often a mix of urban, urban fringe, and rural. Often semi-rural environments in an urban area are of equal value to wholly rural environments. The criteria . .show how weighting is given to visitor centres, distance to parking and proximity of dwellings. Many canal settings following the scoring system could result in implementing a standard that compromises the canal experience .. It is therefore recommended that any improvements are determined within a Strategic Access Management Plan or that the access audit is carried out as part of a wider Canal corridor Study or detailed feasibility."

Whilst the guidelines are intended for British Waterways' internal use, British Waterways would be happy to advise external organisations and developers in its guidance and recommendations, so that they can be applied to the River Lee Navigation.

Points to Consider

The following check list may help in planning a new/improved access point for all

- If the access links to the towing path, is the towing path in a good condition to allow easy use by wheelchair users, ambulant disabled, partially sighted or blind people, and therefore appropriate to construct an access suitable for these users?
- What are the most suitable locations for providing safe access for disabled use, and, if linking to the towing path, provide an exit further along the towing path?
- What activities and opportunities are there for the disabled within the vicinity of the access point onto the River Lee Navigation?
- Is it possible to achieve access for wheelchair users to the appropriate standard, without compromising the river environment and existing structures?
- Will a ramp be used? Long ramps are only likely to be used by healthy and fit users. If this is the case, it may well be better not to provide a ramp at all, as this will only build up hopes of accessibility.
- In urban and well used locations, signs indicating the direction and distance to the nearest suitable access point should be installed where access is not of a suitable standard
- Detailed information on the level, standards, conditions of access, relevant to disabled users should be provided on signs, leaflets or similar Information on the other accessible features of interest should also be provided.
- Consider the potential conflict between users if space is tight.
- Will the proposed access be easily accessible for the disabled by different forms of transport?

Changes of Level

Points to consider when designing steps or ramps

- line of steps/ramp,
- changes of direction,
- whether the steps/ramp project forward or sit into the bank,
- gradient of ramp/pitch of steps,
- number and position of landings;
- surfacing;
- surface water drainage,
- need for a handrail;
- need for a cycle channel for bikes to be wheeled on one side of steps (on towing paths where cycling is accepted); and
- ramps should be no greater than 1 12. Ramps longer than 10 m should incorporate rest platforms of 1 5 m every 10 m and should be adopted in preference to steps wherever possible New access points should be designed where possible to join the towing path at an oblique angle, rather than at 90° for safety reasons Access routes should be designed to be free of obstruction and hazards

With long flights of steps, there should be a change in direction at the landings both for safety reasons (limiting the extent of a possible fall) and for ease of use (long straight flights of steps appear more difficult to use) Wherever possible, do not construct long flights of steps at 90° to the river navigation, when descending a slope to a towing path Where this cannot be avoided, or in busy locations for all access points, a barrier must be provided on the waterway wall. Ramps in particular should be aligned to avoid any danger of running into the river.

Gated Access

There is often a need to control access to navigable rivers/canals This is usually done by the use of gates or stiles, most commonly in the following situations·

- footpath junctions with the towing path using a gate or stile,
- field access - accommodation bridges,
- service access to buildings /sanitary and rubbish facilities;
- British Waterways yard entrances; and
- restricting certain types of users.

There is little or no local distinctiveness for gate design within the study area However, encouragement will be given to gate designs that reflect the character of the waterway and neighbouring environments that creates a high quality design The design could reflect part of the vernacular of the river navigation fabric and at other characteristic of the adjoining land use or landscape, depending on its function

6.8.5 New Bridge Crossings

There are only a few bridge crossings of the River Lee Navigation within the study area, and these are mainly road bridges. A variety of styles and use of materials are used in these bridges, mainly creating a significant detrimental and negative visual appearance on the navigation These vary from large spanned concrete bridges, basic steel lattice structures, pastiche styled brick bridges to old brick bridges of a small scale There is a lack of a distinctive, attractive and co-ordinated style that is repeated along the River Lee Navigation The following guidelines seek to illustrate the aspects that need to be considered in providing a good design that will produce a distinctive style that integrates well with its surroundings and functions well in respect to waterway operation and users.

Road bridge crossings of the River Lee Navigation, particularly those poorly designed have the potential to affect both formal and informal waterway recreation in Enfield as well as the wider leisure and tourism industry. As a result, British Waterways will only consider a new road bridge over the River Lee Navigation in the event that no alternative infrastructure improvements are proven feasible or that strategic route crossings, that are in keeping with the Lee Valley Regional Authority's, "Strategic Landscape Vision".

The Lee Valley Regional Park Authority's, "Strategic Landscape Vision" highlights the importance of bridges and their appearance and the need for them to be improved and maintained. There is a recognition of the need to provide bridge crossings at strategic points to increase the accessibility of the Lee Valley and to create and develop new standards of bridge design within the Lee Valley Park

Any proposed location for a new bridge should not be selected solely by considering the needs of the scheme but should also consider the effect of the proposed bridge on the waterway corridor. The impact of any bridge on the waterway corridor should include consideration of the following aspects.

Navigational Needs

A skew bridge would generally be considered unacceptable as it would extend the length of straight navigation beneath the bridge Any bridge should be perpendicular, unless it can be proven to there are good reasons not to

Navigational clearance needs to be established These will vary from navigation to navigation and from site to site owing to considerations of craft dimensions, one or two way boat workings, horizontal alignment and visibility, proximity to other structures, dredging and other maintenance activities.' British Waterways strongly recommend that developers to contact Lee and Stort Navigation Office (0171 286 6101) at an early stage to define the following

- headroom over navigation,
- headroom over towing path;
- navigation width;
- towing path width;
- navigation depth, and
- forward visibility for navigators and towing path users.

Any highway bridge crossing will need to clear the navigation in a single span and the towing path must pass under the same span as the navigation. Piers within the river navigation would be considered unacceptable to British Waterways.

Environmental, Visual and Landscape Impact on the River Corridor

The impact of the bridge on the waterway environment will require detailed consultation with British Waterways. Not only are bridge aesthetics of great importance but also the setting of the bridge on the local and wider landscape must be considered. Bridges are often one of the main of the main features that affect the character and appearance of a river setting, either positively or negatively.

- It is very important that the location, scale, form, design and materials are appropriate and well designed, to create a positive feature on the river and within the wider setting.

Traditional brick and stone bridge at Enfield Lock, reflects the historic character of the River Lee Navigation

- The River Lee Navigation creates a linear corridor. Bridges are seen by river users as part of a sequence of structures, most of which are contemporary with the construction of the river navigation. Bridges are viewed at leisure by users whether travelling on foot at walking pace, from a boat, fishing at close quarters or from a distance.
- British Waterways recognise that an open parapet on a road bridge would allow road users to view the navigation and have the advantage of a weight saving over masonry parapet. However, British Waterways are concerned that appropriate attention is paid to screening views of vehicles. This could be achieved by incorporating into the bridge design a decorative parapet detail which acts as a visual screen or distracts the eye away from the vehicles crossing over the bridge.
- With regards to setting, how the new structure connects to existing features is important. The wing wall directions should generally be parallel to the transport mode being carried across the navigation. Consideration needs to be given to surfaces both beneath and above new bridges, respecting the character and scale of the existing environment. Civil engineering works associated with bank piling and protection need to be similarly integrated with the original river bank. Adequate land must be allocated if a ramp is to be incorporated and sufficient for a supporting bank to run parallel to the navigation. Long ramps can have a detrimental impact on the visual appearance of a stretch of waterway. Consideration should be given to this when weighing up the merits of including a ramp.
- It is preferable to locate bridges where there are existing embankments, as this will remove or reduce the need to construct new banks or steps which are likely to be visually intrusive.
- High embankments are inappropriate being visible at great distance and creating an impact that can be wholly intrusive.
- Planting should be integral with the design of the bridge and should seek not just to replace removed vegetation but to enhance the total waterway scene.

Bridge Design and Aesthetics

The construction of the canal/river navigation network marked a period of astonishing innovation in engineering and architectural design, using new materials such as cast iron. Therefore, British Waterways believes that opportunity now exists to apply similar ingenuity to the design of new bridge structures. Such a philosophy extends beyond the simple substitution of modern materials for old but requires a fresh approach. However, all design solutions should be derived from a contextual analysis of the setting, the use and future potential of the waterway for leisure and tourism purposes and of course an understanding of the hydrological requirements of the water over which it is passing. A cursory look to the past can be very informative in designing for the future. Key issues relate to scale, mass, form, shape, height, depth of deck, span, symmetry, proportion and solid to void relationship.

The need to build in sympathy with and preferably, to enhance the historic and natural character and fabric of the River Lee Navigation can be taken as a useful starting point for all bridges in the river environment. Therefore the appropriate aesthetics for any new bridge crossings over the Lee Navigation must integrate the new respectfully with the old, reflecting the scale, style, material, proportions and heritage of the navigation as a whole. However, this requirement does not preclude new high quality contemporary design solutions nor does it call for a pastiche of historic road or footbridges, so long as they are sympathetic to the river setting. This may particularly apply to footbridges over water where there is not a need to comply with the technical requirements for road bridges, and therefore have much more freedom of design.

When considering the aesthetics of the bridge there are two main options. The bridge should either be a striking dramatic modern structure or it should reflect the scale, style, material, proportions and heritage of the navigation as a whole. In either case British Waterways requires a high quality, well designed and detailed proposal.

Striking modern design of bridge that integrates well with, and does not detract from, the historic setting of the canal

In respect of River Lee Navigation a new high quality contemporary design solution that creates a strikingly dramatic modern structure may well be appropriate and capable of representing the heritage of the future.

eg. Bridge at Mossop Creek (Lee)

Developers are strongly advised to contact British Waterways in order to obtain the fullest information on Codes of Practice for works affecting British Waterways. Aspects which will need to be discussed with British Waterways at an early stage with regard to bridge aesthetics include:

- Scale, style, proportions and massing;
- Materials and facings should generally be in keeping with those found locally. There is, however, a presumption towards an appropriate brick or stone, with the facing material and bond pattern reflecting the local vernacular;
- Colour; and
- Architectural features such as string courses, pilasters, pilaster caps and patterned brickwork. It is important that the bridge expresses its structural form and that such architectural features are inherent in the design and not "add-on extras". An arched bridge would be preferred as traditional waterway bridges have curvature. Adding fake historical detail would be unacceptable to British Waterways on design and safety terms. Therefore, a beam bridge with false arch facades would be considered unacceptable. For example, an arch built onto the face of a flat box section bridge can be lethal for a boater who has adjusted to a square headroom beneath the dark soffit, suddenly has to duck to avoid an arch on merging into bright sunlight.

All river bridges will generally be seen by slow-moving viewers, principally on the water or along the towing path. The soffit on footbridges is visually important as it is seen by pedestrians and boat users as they pass underneath. Forms of structure which give visual interest on the soffit should therefore be chosen and the quantity and quality of detail are very important. Surface texture and modelling are necessary and natural materials such as stone, brick and timber are particularly appropriate for river and canal bridges.

Any footbridge design must have the ability to convey floodwater without hindrance. Furthermore, any changes to existing bridge parapets must take into account flood defence requirements.

British Waterways do not generally encourage bridge designers to incorporate ledges and holds suitable as nest/roost sites for birds as these would detrimentally affect the environmental quality of the underside of any bridge for towing path users and boaters. Bat boxes can be designed and used where appropriate.

Needs of Towing Path Users

Safety and security considerations for the towing path users and boaters must be evaluated at the outset of any project, and at every stage of the design process thereafter.

- Any bridge design proposals should provide direct pedestrian access to the towing path from the bridge. However, it is preferable that there be no pedestrian access to offside abutments of river navigation bridge in order to prevent graffiti.
- The environmental quality of the underside of any bridge must be attractive and not intimidating nor oppressive for towing path users and boaters. There should be no "dead areas" prone to vandalism on towing paths under bridges.
- The noise impact upon the river environment resulting from a new road bridge crossing must be considered. If noise levels are too great mitigation measures must be introduced.
- The towing path under the bridge should be surfaced in material consistent with the character of the waterway.

If the document is to be SPG - needs to refer to explicitly to statutory context (LDF)

6.9 External Waterside Spaces

6.9.1 Introduction

The River Lee Navigation passes predominantly by built up areas but also by large areas of open space, including sports facilities, golf courses, reservoirs and derelict open land. Each of these open spaces have potential links to the riverside, and all can contribute to the environmental quality of the waterway corridor.

There are many other smaller external spaces, many of which relate to buildings and are in private ownership, and the land frontages of factories and industrial premises which adjoin the navigation. Some of the external spaces may be suitable for informal recreation but are poorly situated, or unsuitable due to current use or would provide little attraction to the user. Where this is the case or no opportunities exist, consideration should be given, when an area is redeveloped, to creating attractive small areas of open space suitable for employee recreation and amenity, particularly when the opportunity is made to positively address the River Lee Navigation waterfront.

New development should consider the provision of open space whenever possible as part of a scheme, particularly where this links with other open spaces, "green corridors", footpaths, cycleways and the towing path.

London Borough of Enfield and British Waterways will continue to upgrade the towing path and pursue regular maintenance work. Private landowners will be encouraged to improve lengths of towing path where there is likely to be a benefit to the landowner. Public and private spaces designed to cater or link to moorings will be welcomed.

The following guidelines aim to encourage the creation of attractive and purposeful waterside spaces, on both public and private land.

6.9.2 Guidelines

- All waterside external spaces contribute to and impact on the state of the waterway and careful site planning and landscape design will be expected.
- High quality materials shall be used in the design and construction of external spaces, whether or not they are accessible to the public. Traditional materials should be used wherever possible.
- The location of open space should, wherever possible, make good use of positive existing features within the site and surroundings of Lee Valley Park.
- Consideration should be given to the creation and management of small scale public spaces, through realignment of boundaries as part of a development scheme and via the improvement of pockets of publicly owned land. Provision of appropriate, good access and connection to a wider network of routes is important for the public space to be well used. The Lee Valley Regional Park Authority's "A Strategic Landscape Vision" highlights the importance of opens space and its wish to see more special features and nodes of varying scales within the Lee Valley Park. It sees small incidental spaces adding significantly to the overall impression and value of the Park.

Pocket park set within residential area and fronting canal

- Public opens spaces should be linked to form a network of urban green spaces and connecting footpaths, interlinked with the towing path.
- External spaces around buildings and developments should, wherever possible, allow both visual and physical access to the waterside for informal private access and enjoyment of the waterway. The views to and from each side of the navigation are to be given due consideration when designing external spaces and frontages, in addition to the vista up and down the waterway.
- Creation of new open spaces adjacent to the navigation provides the opportunity to provide new visual access to the river. This will not only help to provide a more open, softer character to the built up area but will also provide a distinctive focus and attractive views, of the River Lee Navigation and the Lee Valley Park.

- Whilst it is preferable for external waterside spaces to be publicly accessible, there are likely to be other circumstances where it will be desirable to create only privately accessible open space. This may be the case where industrial developments front the waterway on the offside and public access would not be appropriate due to the nature of the business or where there is likely to be little use by the public, due to the clear association with the development or the close provision of public access and open space elsewhere. The creation of private open waterside space will be encouraged, as this will provide an attractive frontage to the development, create informal recreation and amenity for employees and establish an attractive frontage to the River Lee Navigation that add character to the waterway.

Attractive private open space in front of offices facing canal

- Spaces should be designed appropriately, reflecting the character not only of the surrounding development, but also of the waterfront. Consideration should be given to surrounding land uses to ensure compatibility of use and unified environment. Equally good design should enable the space to be used positively for its intended use, providing a pleasurable and enjoyable space to use.
- Where there is a need to provide security adjacent to open spaces, security measures should be carefully designed to be both effective but also to provide a positive feature which adds and relates well to the character of the space and minimises visual influence on the space.
- The creation of open spaces should incorporate the principles of good crime prevention (see Section 6.15 Crime Prevention) to the minimise the risk of vandalism, be attractive spaces with good microclimates. The intention should be to attract visitors and provide spaces that are enjoyable and safe to use.
- Due to location, surrounding land use and elements on the River Lee Navigation, eg locks, certain sites may provide important "gateways" to the Lee Navigation and/or the Lee Valley Regional Park Authority. Where this is likely, early consultation with British Waterways and the Lee Valley Regional Park Authority is important in order to establish and agree an appropriate approach and a good design solution.
- Whilst reflecting local character, open spaces should be distinctive. The contributions of the creative arts to the external appearance and setting of buildings and spaces should be borne in mind.

Good maintenance and management of open spaces is vital to the long term success and use of a space. Careful thought should be given at the outset to the design of external waterside spaces. Consideration should be given to cost, organisation and appropriate design to meet the required maintenance standards.

6.10 Waterside Furniture

6.10.1 Introduction

The location, design and appropriateness of waterside "furniture" such as seating, picnic tables, litter bins, sign posts and information panels requires careful consideration. Facilities suitable for one location may be redundant in function and inappropriate in design at another, resulting in vandalism and deterioration of the waterway environment Waterside furniture is important in giving character and providing an unifying image This can greatly add to the local distinctiveness of an area

Facilities to enable the enjoyment of River Lee Navigation for passive recreation, in addition to its function as a through corridor, will seek to be provided by the Partners. The provision of public or private facilities by private developers will be encouraged particularly where this specifically relates to the development.

6.10.2 General Guidelines

The following guidelines aim to encourage the provision of appropriate facilities on public and private land that will provide safe, functional elements that users will enjoy, whilst preserving and/or enhancing the historic character of the River Lee Navigation.

- The design of all waterside furniture and fittings should be robust and reflect the character and traditions of the waterway
- The provision of seating along the towing path and in adjoining public spaces should be relatively frequent where the intention is to encourage the less able-bodied. The location of seating should consider:
  - proximity to access points;
  - likely use;
  - appropriate distance between seating to encourage use by the less-abled;
  - comfortable microclimate;
  - clearly visible to reduce crime; and
  - proximity to features of interest eg good views.
- Signposting and information should be carefully designed and located to benefit the river environment and its users. Signing should be relevant and appropriate - overuse should be avoided.
- Individuality of style is to be welcomed, as this provides distinctiveness and identity to the waterway. However this should be in keeping with the style and character of the location and waterway.
- Waterside furniture should be designed to minimise the risk of vandalism and be easy to maintain. Always consider the cost of maintenance and management when designing waterside furniture.

The Partners will gladly advise on suitable designs for prominent waterside sites. Contact addresses are shown on page xxx.

6.10.3 Location of Furniture

The objective is to provide for the needs of all waterway users This should aim to provide a balance between preventing the proliferation of waterside furniture, which may conflict with the original character of the waterway, and provision of good facilities. Consider the following:

- avoid visual clutter and simplify the provision of furniture by eg providing seating as part of a structure forming some other function such as a retaining wall or barrier wherever possible;
- carefully consider the location so that items are well used and appreciated rather than redundant or in the way; and
- generally siting of furniture should be discrete to avoid conflict with the original waterway fabric or important setting

6.10.4 Design of Furniture

The waterways have a distinct robust character, softened through time by vegetation, wear and changes of use The vocabulary of furniture should reflect this rather than a misplaced nostalgic idea of 19th Century "heritage" or a municipal park/streetscape When designing consider the following.

- waterside furniture should be designed to take into account its function, ease to use, comfort, maintenance, cost, but also reflect and be in keeping with the local character. A waterway's character relates both to:
  - its form, materials, design of its original construction and use; and
  - the different localities it passes through, which each have their own "local distinctiveness";
- when designing or selecting furniture, both these aspects should be considered in a balanced way;
- reuse of materials such as old lock beams could be considered eg for informal seating in some locations; and
- the use of "public art", particularly in the design of seating, can be a successful approach in eg areas of urban regeneration where better links with the waterway are being sought. However, an over fussy approach should be avoided, and solutions should help to interpret their surroundings in a subtle way.

Seats

The following guidance is provided for the siting and design of seats·

- consider both the location and design of seating for people with a disability as part of planning for a towing path route. (Refer to Fieldfare Trust's "BT Countryside for All" guidelines),
- seats should be placed at locations that provide ambulant disabled and elderly people with opportunities to rest during a towing path walk. Placing a seat not far from and within sight of an access point will encourage use by people who may only be able to visit the navigation for a short time, or who cannot walk very far,
- surfaced resting places at least 900 mm square should be provided next to the seat so that a wheelchair user can sit with their companions,

- the location should be considered in relation to the fabric and other functions of the river navigation, avoiding compromising the elevation of original bridges and structures;
- consider the seat location in relation to views or viewed activity,
- wherever possible, site a seat where there will be inaccessible backdrop. It is always more pleasant to sit with a secure backdrop such as a wall or planting, to provide a greater sense of security and comfort, and
- seats should be set back from the towing path by at least 600 mm to allow the free passage of other towing path users. They should not usually be located on the waterside of the towing path as they will cause a hazard to boaters and tow ropes

Lighting

British Waterways does not encourage extensive lighting of the towing path and waterside, and itself has no duty to light towing path routes, unlike local authorities with public highways In general lighting is out of character in rural locations, and as such is not recommended. Lighting may well be appropriate in urban areas particularly where there is evening use associated with adjacent land uses, such as restaurants and pubs, or alongside urban moorings as a safety measure. As such, developments will be encouraged to provide lighting where it relates to a relevant development and will provide a positive contribution to the setting

Lighting should be carefully planned to ensure that it is located and designed to meet a clearly identified need bringing benefits to the waterway environment whilst avoiding any disadvantages such as intrusion from glare, vandalism and maintenance problems. Light pollution and the "preservation of the night sky" is an important consideration.

Locations and circumstances where lighting might be used near to the waterway:

- busy public towing path routes and quaysides;
- commercial locks and wharves;
- permanent moorings and marinas;
- bridges on urban routes - under and over,
- highlighting urban landmark buildings and features;
- light as art,
- festivals, events and celebrations, and
- security - buildings and yards However, as such lighting is likely to be visually intrusive, due to its a high luminaire this should be avoided in the river setting Industrial developments should be designed to avoid the need for lighting adjacent to the river navigation eg yards and access should be away from the river.

Rather than an ad-hoc installation, lighting should be an integrated part of the waterside furniture and overall river setting

Outdoor light fittings are seen mostly in the daylight, so they should relate to their surroundings both in scale and style Simple, robust designs are preferred for the river environment, and over ornate, replica old lamps should be avoided Wherever possible, lighting should be attached to existing buildings or walls rather than columns to avoid the need to introduce a new structure into the waterway environment and to minimise clutter

Litter Bins

Litter bins can generate rubbish and management problems, and contribute to a municipal character which is out of character with the river environment Generally, litter bins should not be provided except for very well used public places associated with an adjacent development or amenity such as a park

Management of the bins should be to a very high standard, as litter bins in themselves can cause a litter problem unless regularly maintained Dependant on the level of use, litter bins should be emptied regularly. Consider at the outset what the costs of maintaining, and regularly clearing litter bins will cost, and who is going to pay for it.

Signs

Signs should be kept to a minimum. Where possible signs should not be free standing if there is already a nearby structure on which they can be attached and still be easily viewed. Signage should be there to support what is going on, not to become the main event

It is important that where signs are used they are designed in a style that is appropriate to the character of the river setting and distinctive to the River Lee Navigation Advise should be sought from British Waterways.

6.11 Public Art

Interpretation by artists of the waterside environment can be the key to creating the sense of place. Public Art for example can contribute to the visual enhancement of the waterway and create a sense of place as well as an unique identity. There is enormous potential for the integration of art works within the River Lee Navigation corridor.

The contribution of public art to a project may be expressed in a wide variety of ways, from producing public art strategies to integrated artworks; from street furniture to one-off celebratory events associated with the project's completion. Past experience demonstrates that the key to the most effective public art comes from involving artist(s) in decision making from the initial design stages. Community involvement can add local distinctiveness, a cultural contribution, and aid in the adoption of a development or an improvement within an area.

The Partnership welcome the utilisation of appropriate materials, and arts and crafts skills to create interpretative signs, waterside furniture and gateway/landmark features. However, any installation of public art within the waterside environment needs to take account of water safety, British Waterways' operational requirements, long term maintenance and insurance issues. The following principles need to be adhered to:

- involve an artist or artists at the earliest stages of a project as a member of a design team;
- permanent artwork must be durable, easy to remove in the event of emergency and as maintenance free as possible;
- waterside art should be located carefully in relation to the towing path, lockside areas and other operational/functional elements; and
- siting, scale, form, design and materials of waterside art must:
  - enhance both the historic built fabric and the landscape character of the waterway and retain the attractiveness of the waterway environment;
  - not obstruct nor clutter original and existing waterway features; and
  - artwork should ideally relate to local history, fabric waterway, local community or otherwise be relevant and appropriate. Siting should form an important part of the design, either being an integral part of a functional element or fitting appropriately and being relevant to a particular location on the waterway.

It is recommended that consideration is given by the Partnership to the production of a public art strategy for the River Lee Navigation corridor. This strategy could investigate the opportunities for introduction of the following public art elements within the Lee Navigation corridor:

- **information and interpretation:** eg directional signs and interpretation panels;

Imaginative combination of artwork and information

- **waterside furniture and other manufactured features:** seating, lighting, bollards, litter bins etc, can be designed in a distinctive manner, that will introduce character, local distinctiveness and an integration of elements. This could be for example, through the design of the whole element, individual parts of the whole, motifs, or colour (refer to Section 6.10 Waterside Furniture);
- **fencing and boundaries:** demarcation of boundaries can be designed in an imaginative way, not only to reflect their function, but also characteristics of the wider setting or similar. This will help to provide an attractive and distinctive element that also achieves its functional purpose;

Adding colour to existing boundary transforms drab character

- **cycle/footpaths:** eg design of floorscapes to depict a particular theme;

Art mosaic in footway, depicting local history

- **buildings and structures:** creative lighting and floodlighting of: historic landmark structures; entrances; focal points; or as an art form in itself;

The use of creative lighting, provides a dramatic entrance

- **earthworks and landscape works:** artwork can be very effectively incorporated into earthworks and landscape works to produce stimulating and exciting designs that are functional and achieve the intended purpose. There are currently a number of good examples of such artwork around the country;

Ironwork provides an attractive element within brick wall

- **gateways and entrances:** to create a sense of arrival at a place of interest;
- **functional places and spaces:** artwork can be incorporated in to such areas as; waterside building entrances and forecourt, lockside areas etc. Here they can have a dramatic effect that provides interest and character with the viewers having a good opportunity to appreciate the artwork;
- **landmark features:** public art can be used to identify, celebrate specific locations and events, and highlight specific views to and from the waterway; and
- **signage:** incorporate interest and character into conventional and functional signs;

Imaginative design of the signs provides drama and interest

- **temporary programme:** eg temporary artwork and performance to support festival or events.

6.12 Principles for Boundary Treatments

6.12.1 Introduction

Due to the long linear nature of the towing path, the treatment of its boundary with neighbouring land has a significant effect on the character and enjoyment of the use of the towing path. Movement along the river corridor is by its nature slow and leisurely by boat, on foot or by bicycle. All allow time to experience the unique character and detail of the waterway, and equally to notice the unsightly and threatening. Waterside development should aim to contribute to, and enhance the positive experiences and eradicate the negative. It also forms the public and private interface and has a major influence not just on the waterway but also the way it is perceived when viewed from neighbouring land.

6.12.2 Guidelines to Boundary Treatments

- The fair face of all boundary treatments should be towards the waterway.
- Building frontages and facades provide important riverside boundary treatments, but should be designed to have a positive and attractive impression on the river.
- Where possible, landowners and developers should set security fencing back from the boundary to allow for soft landscaping.
- An open boundary treatment should be considered where security is not an issue. Where possible, boundaries to public open spaces and attractive developments should be visually permeable and incorporate access if appropriate.
- Security fencing should not exceed 1.8 m in height and unnecessary deterrents, eg barbed wire, spikes, angles and revolving tops should be avoided.
- The incorporation of brick piers and low walls to railings and fencing will greatly add to their appearance. Due to the extra cost these should be used where appearance is important.
- The use of climbing plants in association with security fencing and other landscaping should be encouraged.
- Where boundaries are long, the treatment should vary through mix of orientation, offsetting, materials, pattern and landscaping.
- Boundary treatments should, where possible, be resistant to graffiti, or surfaced in such a manner that graffiti can easily be removed.
- Take the opportunity to introduce lighting, particularly of buildings which form part of the boundary.
- The issue of crime prevention should always be considered in relation to the design and location of boundary treatments to prevent the creation of blind spots and hiding places for offenders (refer to Section 6.15 Crime Prevention).
- Boundaries to public open spaces should be visually permeable but should prevent unintentional access to the river navigation. Links with the towing path should be considered (refer to the Section 6.8 Creating Access to the River).

London Borough of Enfield and British Waterways will welcome initial discussion with landowners and developers to ensure the correct balance is struck between security, privacy and aesthetic appeal. Waterway Environment Services are particularly experienced in the design and planning of waterside edges and boundaries and will be pleased to assist where necessary.

In addition, grant aid to enhance existing boundaries may be available. Contact addresses are shown on page xxx.

The River Lee corridor has two distinctly different boundary characters; the towing path boundary and the offside boundary.

Attractive visually permeable fencing adjacent to open space

6.12.3 Boundary Treatment to the Towing Path

The boundary is divided into two distinct character zones as shown below:

Enfield Yard to The North Circular

Land beyond the towing path side of the navigation is for the most part fairly open to the waterside, characterised by a patchy hedgerow boundary and rough grazing land and enclosed to the east and heavily influenced by the high grass embankments of the Thames Water reservoirs.

In proposing appropriate boundary treatments, it is desirable to retain the open character of this area and utilise natural features such as hedges as opposed to fencelines, railings and walls.

The majority of land to the east of the towing path is owned by Thames Water who have specific requirements in relation to the management, maintenance and structural stability of the reservoir embankments. It is assumed for the purposes of these guidelines that the status and nature of this land will not change.

The following boundary treatments should be considered

The Towing Path Boundary

Where public access to the land at the foot of the embankment is not permitted, a suitable boundary treatment should be implemented However, where possible physical access should be encouraged. Such a boundary may also be required to serve as a stock proof fence as much of the land to the east is grazed by cattle and horses.

Suitable boundary treatments include.

- laying existing hedgelines;
- stock proof fencing;
- stock proof fencing in conjunction with new hedge planting.

Embankment Foot Boundary

This boundary treatment needs to prevent access by humans and vermin onto the embankments, and prevent grazing sheep leaving the embankment slopes

Suitable boundary treatments include the following

- **Fencing** - stock proof fencing with rabbit netting
- **Fence and Hedge** - hedge planting could be used in conjunction with the above fence type. Thorny species such as Hawthorn and Blackthorn should be incorporated to deter public access Deep rooting shrubs and trees should not be used in close proximity to the embankment

Embankment Top Boundary

In order to minimise the visual impact of the fence, it would be preferable to locate it so that the top of the fence lies below the height of the top of the embankment A post and wire stock proof fence should be used where possible, particularly if it cannot be located below the top of the embankment for operational reasons.

North Circular Area

In contrast to the area to the north, the towing path side within the vicinity of the North Circular alters dramatically in character, due to changes in the neighbouring land use. This stretch illustrates a neglected character, associated with a rundown industrial estate.

CUE - no derelict properties).

This change accordingly affects the recommended boundary treatment. It is hoped that this area will be redeveloped, providing the opportunity to establish appropriate waterside treatment and boundaries. The opportunity should be sought to use building frontages and open space to form the boundary. Appropriate boundary treatment will depend significantly on the type of proposed development and should be designed accordingly

Unauthorised access to individual premises is undesirable, particularly where premises are security sensitive, but although high level security fencing may be seen as the answer, it is not appropriate from a visual/amenity aspect. Any proposed security fencing should be visually permeable to minimise its impact, with industrial activity visible from the river corridor intermittently, combined with lengths that are screened with native planting

Vehicular access should be avoided adjacent to the waterway, to improve safety and provide a more attractive environment adjacent to the river navigation.

6.12.4 Boundary Treatment to the Offside

The offside boundary of the River Lee Navigation is predominantly characterised by the large industrial estates to the west These are mainly industrial units, cranes, service yards etc The industrial units vary from portacabins to large steel clad sheds Some units directly front or even extend over the offside boundary, having a significant effect on the character of the waterfront Units are usually orientated so that the rear of the development together with service yards, face the waterway Security fencing, vehicular barriers and guard rails are commonly found protecting the development from the waterway. In places the boundary is softened by willow trees and aquatic planting along the waterside edge

The effect is to give a defensive and negative appearance to the waterfront and generally giving the impression of shunning the River Lee Navigation as a hazardous backwater.

The remaining land use is characterised by derelict land, unused open space and recreational land, establishing a more open, semi-rural character which has experienced varying degrees of neglect. Boundary treatments tend to be more open, with scrub and trees partially characterising the boundary

Consequently a completely revised approach needs to be taken to the boundaries, in order to create a more positive environment. Future development proposals will be required not to follow the existing approach to boundary treatment, but to follow the guidelines set out below.

Guidelines to Boundary Treatment

Planning and Development

British Waterways would welcome the redevelopment of waterside industrial estates When redevelopment is undertaken developers will be required to establish a more positive approach to the treatment of the waterside boundary of a development, addressing it in a creative manner The River Lee Navigation provides an attractive setting for developments and gives the opportunity to provide a positive image for the development as well as enable employees to enjoy the waterway environment

Public and private open spaces are encouraged along the waterside (refer to Section 6.9 External Waterside Spaces), together with waterside planting

Further guidelines are provided to creating a positive waterside treatment within the Section 6.3 Principles for Creating Successful Mixed Use Waterfront Developments and Section 6.4 Principles for Waterside Industrial Development

Security

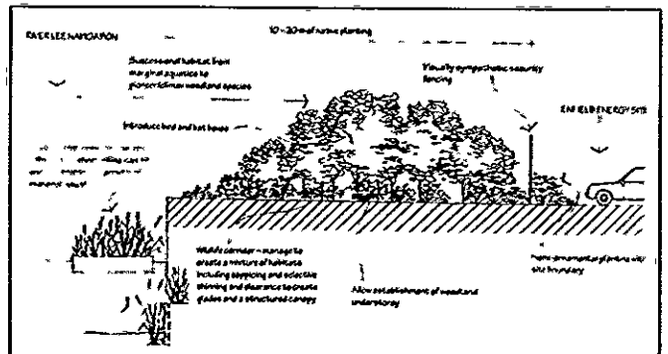
Security is often an important issue both to providing a secure location for storage, production etc. and for the safety of the public However, it is often not necessary to erect security fencing along the boundary with river, as the River Lee Navigation and act as a natural moat, and if the boundary is planted, would be undesirable for waterway users.

Where development is designed to front the waterway, access, service yards and car parks can be located on the opposing side of the building, closer to the main access roads. These can be secured if required with security fencing carefully located and designed to integrate with the waterway setting, linking to the side or front of the building

Where for logistical/operational reasons it is not possible to avoid locating security fencing along the waterside boundary or where there is unlikely to be development on site in the short to medium term or where other internal security fencing will be visible form the waterway, the guidelines for the design of security fencing, outlined below, should be followed

Where security fencing must be located along the waterside boundary, British Waterways would strongly encourage the setting back of the fenceline from the boundary, to allow space for woodland/scrub planting along the water side of the fence. This will have the following benefits:

- provide an attractive, more rural setting for the waterfront;
- screen industrial developments from the waterway;
- improve security if thorny, impenetrable scrub/understorey is established;
- provide an attractive backdrop for industrial developments; and
- create new habitats and improve the quality of wildlife.



Belt of wood, scrub and marginal aquatic planting between security fence and riverside enables screening and wildlife value

Open Space and Recreational Setting

Encouragement is given to the appropriate redevelopment of all derelict land in accordance with these guidelines. Consideration should be given to using derelict land for the creation of public open space, enabling greater access and recreational use of the waterway and the development of a network of green spaces.

Where there is currently an attractive open space or where there are proposals to improve open space, an open boundary treatment is to be encouraged, whether retained or created. The waterway should be allowed to become an integral part of the open space with open visual access This could be balanced with a moderate amount of planting and other waterside treatments as appropriate to provide interest and variety.

6.12.5 Fencing in the Waterway Environment

Fences are needed for a number of quite different functions - they can warn, delineate, define changes in level, protect, screen and reassure, as well as prevent access. All these situations produce quite different design solutions, and in the river environment there are a number of traditional types that form part of the historic river fabric Fences should reflect the strong, simple, straightforward, robust characteristics of the waterway environment.

General Guidelines

Before improving/replacing a fence or installing a new one, consider the following points.

- where fences are part of the original historical fabric of the river environment, they should be restored If restoration is not viable because of the extent of decay, the fence should be replaced, where appropriate, by a fence replicating the original;
- check whether the fence is part of a listed structure or in a conservation area. This is likely to affect what can be done to the fence and whether and what style of new fence can be erected;
- understand all the potential functions of a new fence, as this will determine the design choice and assess the need for measures to deter vandalism;
- Consult user groups and adjoining landowners to ensure there are no conflicts;
- assess the intended life of the fence and the likely degree of maintenance, and
- the appearance of the fence should suit the location eg whether urban or rural, should tie and be complementary with other structures, and reflect the character of the river.

Types of Fencing

Likely uses of fencing along the River Lee Navigation are:

Protective - eg ramp to a bridge, at the bottom of descending ramps/steps at the waters edge, separating a busy urban towing path from a lockside, temporary fencing around planting beds.

Typically steel railings and guard rails where there is a need to separate conflicting uses or pedestrians from hazardous situations along the waterfront Where there is a need to protect planting, timber knee rails are often used or chestnut pale fencing where the protection is only temporary.

The fencing should be appropriate to provide the intended protection in an effective manner, considering all potential hazards. It is equally important that the fence should be designed to create an attractive appearance that is in keeping with its waterside setting Such fencing has the potential to be visual intrusive and careful consideration should be given to its actual need and that the fence provides a positive attribute that does not detract from the appearance of the waterway.

Boundary - eg lock cottage garden timber picket fence, post and wire stock-proof towing path hedgerow fence,

Boundary fencing may double with another function, eg security, but quite often the only intended purpose is to demarcate a boundary. There is often a wish to provide only a low cost functional fence, and whilst this needs to be a consideration, it is important to consider the appearance of the individual boundary This should consider the boundary of the waterway over a much wider area, to ensure that there is a continuity in style that is appropriate and reflects the historic character of the waterway. With the above in mind, there is the opportunity to provide distinctive fencing styles that give a uniqueness to the individual property but also add variety and interest to the waterway as a whole.

Screen - eg around rubbish compounds or car parks.

Usually visually solid or with a limited permeability, typically close board fencing and timber palisade fencing or similar. The emphasis is on screening, but may not always be necessary to completely screen eg adjacent to a car park, where some permeability would be acceptable or desirable As such the fence should be appropriate to what is being screened and its ability to achieve this Equally important is to consider the effect of the fence on the waterway setting, which itself may be visually intrusive If the elements to be screened are large, in particular high, there is a temptation to construct a high fence capable of screening the elements However, the fence may end up being more intrusive than the elements intended to be screened, particularly within the confined space along a towing path.

Solid fences often cause wind turbulence and affect the microclimate immediately downwind of the fence. Consideration should be given to the effect this will have on any potential neighbouring users If this is likely to be a problem a more permeable fence should be used, as this creates less wind turbulence

Planting is often used as a more effective and attractive way of screening, but fencing may be more appropriate where space is tight or to provide screening whilst the planting is establishing Where space is tight careful consideration should be given to the effect on immediate locality in respect to appearance and the dynamics of personal space. When used in conjunction with planting, the function and durability of the fence is less important, and the combination of the two should be considered together, in terms of screening, appearance, cost and maintenance

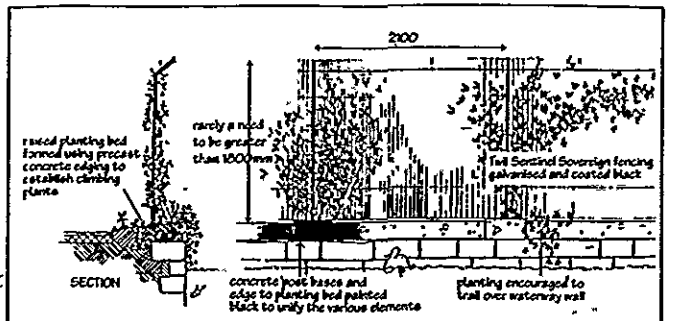
Security - eg around British Waterways yards or waterside business premises

Security fencing should be visually permeable to minimise its impact, with industrial activity visible, combined with lengths that have screen panting.

Visually aggressive approaches to fencing design, with additional razor wire or rotating baffles on top of the fence, detract significantly from the river environment They also create a negative and defensive appearance, establishing a threatening character to users of the river navigation, whilst also drawing attention to the need for high level security fencing.

Mild steel palisade fencing is often left galvanised and unpainted, making it more visually obtrusive. Painting black or dark green can help to reduce the impact, blending with vegetation. Where fencing would form a key boundary, consideration should be given to the incorporation of artwork into the fencing to improve its appearance and interest.

Planting can be used to soften the effect of security fencing, but should be of a type that does not reduce the effectiveness of the barrier



Visually attractive security fencing with climbers

6.12.6 Boundary Improvement Campaigns

Boundary improvement campaigns have been launched with businesses on a number of waterways to help bring about small improvements that have a great impact on the waterway, without fundamental redevelopment.

Boundary facelifts can provide the opportunity to promote local industry, where appropriate, in partnership projects. Often the improvements can be built into existing maintenance budgets or by rationalising working procedures, without extra cost to the landowner. A grant scheme for landowners and businesses can sometimes be made available, often as part of a larger project for environmental improvements using eg European funding

6.13 Waterside Edge Treatments

6.13.1 Introduction

Waterside edge construction and bank protection are fundamental to the structure of the Lee Navigation in retaining the alignment of the waterway, creating fully functional wharves and mooring points, and protecting embankments and their associated habitats from erosion from boat wash.

6.13.2 Existing Edge Treatments

Types of edge treatment which have been used in Enfield are:

- predominantly steel/concrete piling and in-situ concrete usually with concrete coping which is either exposed above the water level giving a stark engineered appearance unless softened by adjacent marginal and/or aquatic vegetation;
- timber piling - limited to localised sections;
- stone/brick walling - limited to localised sections; and
- soil embankment naturally colonised by marginal and aquatic vegetation.

Steel and concrete piling have been the traditional form of retaining edges, forming a reliable, strong wall, with relatively low maintenance and of moderate cost However, their aesthetic value is low and often create a negative image that detracts from the appearance of the river navigation, particularly in the more semi-rural settings of the Lea Valley Park. They also have the disadvantage of providing little wildlife value and if put into existing soft bank can significantly detract from the existing wildlife value. The use of a hard edge often removes existing marginal vegetation and prevents its recolonisation, stops borrowing of animals into the river bank, and significantly restricts access of animals into and out of water. Whilst this treatment is undoubtedly is important in certain locations, consideration should always be given to whether alternative treatments could be used.

6.13.3 Guidance on Edge Treatments

The choice of edge treatment may be determined by engineering requirements, but the following issues should also be considered:

- location in relation to function - moorings, lock approaches, bridges and so on;
- visual impact;
- ecological impact and opportunities for enhancement;
- historical precedence;
- risk to users; and
- moorings - craft are an important feature bringing character and activity to the waterway. Moorers require a hard edge against which to moor at a suitable height above the waterline to facilitate access on and off the boats. Where there is dramatic variation in waterlevel, the specification of rise and fall pontoons will be necessary.

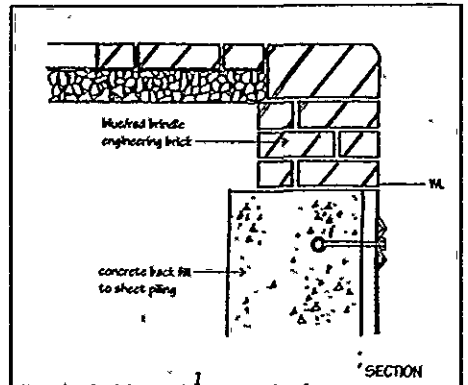
6.13.4 Waterside Edges – Bank Protection

Bank protection techniques that should be promoted or restricted in Enfield are as follows:

Steel Piling

Steel piling is usually employed where there is an engineering requirement eg unstable soils; a vertical edge is preferable to maximise the width of the towing path; or a hard edge is required for mooring craft.

Steel piling however gives a harsh visual appearance to the waters edge and the specification of stone or brick cladding above the waterline, timber fenders and timber copings should be considered to help soften its impact.



Brick cladding above steel piling

The hostile environment created by piling is not conducive to natural colonisation by wetland species therefore floating vegetation boxes and coir rolls should be used where possible (refer to Section 6 14 Designing for Waterside Planting and Wildlife) Where it is not necessary, greater benefit to nature conservation can be provided through not using steel piling and using vegetation or bioengineering techniques instead

Concrete Piling

Concrete piling is little used now with in-situ concrete more commonly being used for repairs and new/relined lengths. The use of concrete for waterway wall construction allows for wide flexibility in the specification of texture, colour and form. It is possible therefore to replicate the design of original waterway wall features, provide integrated niches for plant colonisation and escape routes for animals.

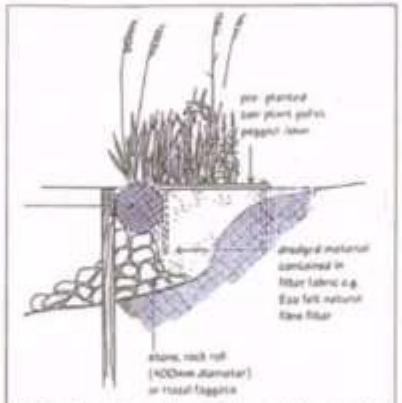
However concrete has a hard engineered appearance which does not weather well giving an unattractive appearance Therefore whilst versatile, it is recommended that the use of concrete be restricted to coping details and only used as a waterway wall treatment where absolutely necessary. Again, where it is necessary to use it or to improve existing concrete walls, the use of brick or stone copings, and/or the use of vegetation boxes and coir rolls, should be used wherever possible

Vegetation and Bioengineering

Native vegetation can be effectively be used for bank protection, reinforcing substrates are appropriate solutions to bank erosion, particularly on the offside where boat moorings are not required. The roots of waterside trees can provide effective forms of stabilisation, where they are unlikely to create damage to neighbouring structures. Planting of alder and willow or the use of willow retaining walls, may be an appropriate treatment. Reeds, if well established, are tolerant to boat wash and act as a deflector, dissipating energy before damage can be done to the bank structure. As well as their habitat value, reeds can act as a nitrate "sink" to help prevent algal blooms.

There are various forms of bioengineering that can be used to stabilise banks and enable re-establishment of native emergent vegetation, and include the following:

- geotextiles such as "Nicospan" are used to retain dredged material or prevent erosion;
- biodegradable mats and coir rolls with appropriate marginal aquatics incorporated. Coir rolls have the advantage of not requiring an existing soil structure and thus are self sufficient and can be located anywhere;
- hurdles – hazel wattle hurdles of approximately 1.8 x 1.8m, held in place by posts or stakes. Again, like coir rolls are not dependant on a soil structure;
- willow spilling and posts – will stakes inserted into the ground provides stabilisation of the bank, which is further stabilised by the self rooting of the willow. Careful management is required to prevent excessive vegetative growth; and
- timber crib walls formed from an interlocking lattice of wood, with vegetation planted in between. This form of treatment is subject to scouring and is less desirable, but does provide a mixture of hard and vegetated bank reinforcement.



Staked coir roll and pallet enable vegetative stabilisation of bank

Stone and Brick

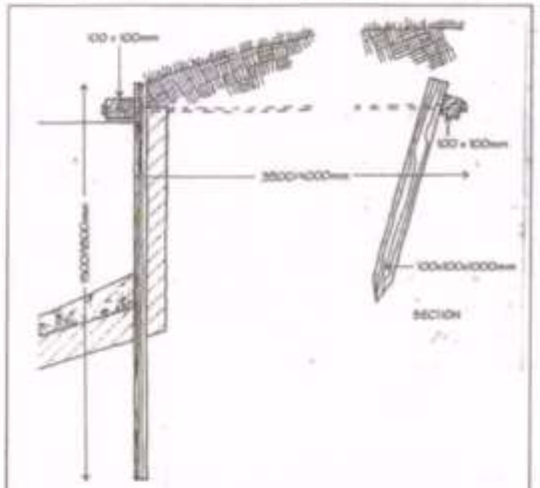
Stone and brick were traditionally used in the construction of waterway walls, wharves and locks in the Enfield area. Surviving examples of this type of construction, can be found for example at Enfield Lock. They provide vital information regarding brick type and sources of stone, dimensions, bonding patterns and mortar mixes.

Traditional brick wall edging

In a historical context or where a high quality appearance is required stone of brick walling is recommended. The reuse of original materials and traditional construction techniques should be encouraged wherever possible, to help retain the character of the navigation.

Timber Edging

Provides a traditional, aesthetically pleasing, moderately long lasting and relatively economical way of edging watersides. It is relatively easily repaired or replaced. It is light but strong, has reasonably good shock resistance. For these reasons it is strongly recommended that this is considered as a waterside edge treatment. Treated software is probably the most appropriate.



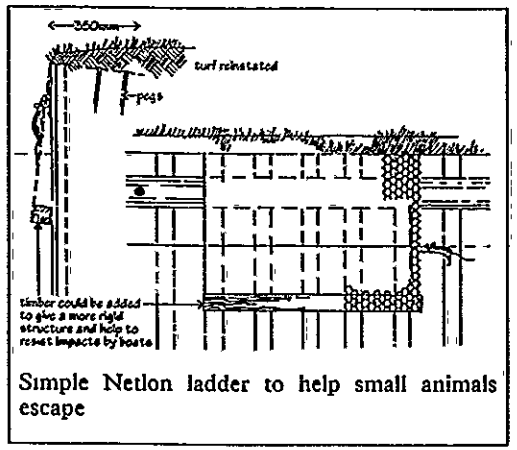
Standard timber edging

6.13.5 Waterside Edge Structures

The chosen design should incorporate additional design features to aid the escape of people and animals who inadvertently fall into the water. Examples are as follows:

- **means of escape for humans** – a means of escape and grab chains to enable a person to hold on and keep their head above water This should be provided on steep sided waterways where the freeboard is significantly greater than usual and where a busy or narrow towing path is very close to the waters edge. A local risk assessment should be carried out to determine an appropriate level of provision. All locks should have ladders provided.

- **animal ramps** – Animal drownings are a common occurrence in many canalised waterways with steep sided banks, particularly where new bank protection has been constructed. Structures can be installed to reduce the incidence of animal drownings The simplest is an animal ladder, which is firmly attached to the top of the waterway wall and trails into the water. Plastic coated wire mesh or geotextiles can be used. Other means of escape include animal ramps which should be located 50 cm below the water level at a gradient of 35 – 45°. Such structures were traditionally used along canals by horses



Simple Netlon ladder to help small animals escape

6.14 Designing for Waterside Planting and Wildlife

6.14.1 Introduction

Despite its urban setting the River Lee contains richly varied wildlife habitats, supporting a wide range of aquatic and terrestrial flora and fauna. Submerged, emergent and marginal vegetation types are well represented and in several locations bankside stretches have good hedges or attractive coppiced willows. Within the Enfield area the River Lee is the only location for many of the species recorded, but all the components of the waterways' flora and fauna combine to make the waterway an important wildlife resource. Rivers also provide important wildlife corridors, particularly through urban locations, linking to other wildlife corridors and habitats.

This unique asset needs to be maintained and managed and should be considered as an important factor in any proposals for waterside redevelopment or change. There is also little tree or woodland planting within the River Lee Navigation corridor or associated with its setting. This has a significant effect on the character and appearance of the river, particularly within an urban context. The planting of trees, woods and the creation of new habitats is a key objective in improving the River Lee Navigation. The following guidelines aim to encourage the promotion of nature conservation on both public and private land.

6.14.2 Objectives and Issues

- Waterside vegetation provides an important characteristic of the waterway scene and creates valuable habitats for wildlife. Further planting should be considered for:
  - providing an attractive setting and spaces for enjoyment of the waterside, as well as enclosure and enhancement of views;
  - helping to integrate a development into the surrounding landscape;
  - screening unsightly developments and features, which would otherwise have a detrimental visual effect;
  - softening of hard, urban visual qualities often associated with man-made structures;
  - shelter and providing a pleasant microclimate, eg from cross winds at lock approaches; and
  - improving nature conservation value.
- All planting proposals should take account of the linear character of the waterway, including patterns of enclosure as well as complement the wider landscape both ecologically and visually.
- Existing trees and vegetation which make a contribution to the landscape of the waterway corridor should, be retained where possible as part of new developments.
- Existing wildlife habitats should be protected, enhanced and maintained, wherever possible.
- An assessment of nature conservation value should be carried out for an area particularly where new development is proposed with the aim to retain and protect anything of value. English Nature should be consulted immediately if protected species such as crayfish, Water Voles or bats are suspected or found to be on a development site. They will provide advice on appropriate action.
- The use of native species is encouraged within the waterway corridor and alongside boundaries particularly on the offside of the River Lee Navigation. The use of locally occurring indigenous species will be particularly encouraged to preserve the existing landscape character and maximise the wildlife potential. Where planting schemes are undertaken to reflect local habitats, plants of a local provenance should be used. Ornamental planting should be used in more formal urban locations
- Appropriate planting treatment should be considered in relation to new and existing industrial sites where they will not contribute positively to the waterway environment. The objective of the planting scheme should be to provide at least enough screening to sufficiently screen the development in winter.
- Where space allows new planting schemes should seek to create a variety of habitats. This should be further enhanced and developed through maintenance and management (see Section 6.14 Designing for Waterside Planting and Wildlife).
- Planting schemes should be appropriate within the wider context of the River Lee Navigation, reflecting character and providing variety and diversity. Planting an often play an important role in linking disparate elements, creating greater unity and improving visual qualities. It can reinforce or provide a new character and often softens strongly urban characteristics.
- The design, creation, maintenance and management of wildlife habitats should be actively undertaken wherever possible. This will also be encouraged on British Waterways, Lee Valley Regional Park Authority, Thames Water and London Borough of Enfield owned land which is not required for development.
- Management plans should be prepared and implemented for all sites of nature conservation interest.

British Waterways and the Lee Valley Regional Park Authority can offer advice on nature conservation and management, and will be pleased to liase with owners of waterside property. In addition, they may be able to identify sources of grant aid.

Existing scrub and marginal aquatics soften appearance of large scale warehouse and contribute to the wildlife value

6.14.3 Planting Guidelines

The following are provided to guide the preparation of planting proposals·

Function

Determine what the purpose of the planting is and how this can be best achieved, eg screening – use native fast growing trees with some ' evergreen content. It may be that natural regeneration is the best approach, where, for example, there is a good seed bank that will create the appropriate habitat, without the need for quick establishment.

Site Assessment

Ascertain information on the aspect of the site, location and type of existing vegetation in the locality and, the soil type, its pH and its water holding capacity.

Relate Planting to the Site

Selected species should be appropriate to the location, soil type, pH, microclimate, as well as being appropriate to the type of habitat, function and appearance.

Design

Successful planting schemes are usually based on careful design, considering species selection, composition, location, planting densities, and mixes. This will either reflect natural habitats or to create attractive, functional and effective planting. Designs should consider maintenance and management at an early stage, in order to successfully establish appropriate, cost effective planting and secure its long term success.

Microclimate

Consider the effects that the planting proposals will have on the local microclimate These may include, for example; shade, wind turbulence and shelter, which will affect the enjoyment of the use of spaces by people.

Habitats

Relate the type of planting to the Countryside Commission's "Character Areas" and English Nature's "Natural Areas" maps to ensure appropriateness. New planting schemes should use species native to the area and preferably of local provenance to encourage good establishment of planting and retain the local waterway character.

Appropriateness

Ensure that the type and location of new planting contributes to rather than conflicts with the ecology and landscape of the river corridor and surrounding land

Constraints

Be aware of planning constraints, in particular landscape and nature conservation designations, underground and overhead services and building and engineered structures.

Care should be taken where there are possible engineering constraints that could effect the type or location of the proposed new planting, eg on or near a structure that could be vulnerable to root damage.

Where the waterway wall is stable and there is no danger of leakage, tree planting is to be encouraged. The following is a rough guide to planting trees adjacent to the waterway.

- species with very invasive root systems such as willow and poplar should be avoided or planted further back from the waters edge; and
- generally all other trees should not be planted closer than 6 m from the waterway wall.

Shrubs with invasive root systems should be kept at least 2 m away from less stable waterway walls and minor structures such as manholes, sluices, pavings, steps, etc to avoid damage by roots. Stable waterway walls and larger structures can resist the effects of shrubs with invasive root systems.

Protection

Depending on the location of the planting there is likely to be varying degrees to which the proposed planting may be damaged by animals or humans Planting along the boundary to fields, may be grazed by cattle or horses Plants can often be damaged by rabbits particularly when other food sources may be scarce – this is still possible within urban areas. Protection should be given where it is known that there is a relatively high rabbit population within the area. Protection against animals may take the form of fencing, tree shelters or rabbit guards etc, but these can be visual intrusive and should be avoided in urban locations and where a high visual quality is required eg ornamental planting. Choice of protection should be based on effectiveness, appearance and cost.

Human damage may arise as a result of poor planting design, the creation of desire lines, hardiness of plants used, and from vandalism. It is important to understand what the likely pressures from humans are going to be on the planting Pressures often arise from users wanting to use particular desire routes. Be aware of them and design for them Avoid narrow beds between paths and areas of recreation. Where there is likely to be a problem with vandalism consider the type of planting method used. For example:

- use mass whip planting rather than larger nursery stock for woodland planting;
- protect planting eg tree guards; and
- consider involving local communities. Implementation involving the local community, especially children, may be the key to the success of a scheme in vandal prone areas.

Economic Return

It may be that the planting can provide an economic return, such as timber or coppice products from a woodland, or fruit/nut from orchards.

Maintenance and Management

Ensure there is adequate maintenance for successful establishment. The implementation of regular maintenance and long term management regimes are essential to achieving the desired planting objectives.

All planting contracts should therefore be let with a minimum 3 year maintenance period to ensure successful establishment of planting and replacement of defective plants, followed by a 15 year management plan which identifies the operations by which the planting/habitat objectives are achieved. In the case of woodland planting there may also be the additional benefit of an economic return. Assistance with cost can be provided through various grant schemes for planting, maintaining and managing habitats eg woods, hedgerows, ponds.

Maintenance and management operations should be considered at the outset and incorporated into the design, eg good ground preparation and the use of the right species will determine whether there is good establishment and success of the planting and the extent to which maintenance is required. Allow an adequate budget for a good level of maintenance to ensure a successful achievement of planting objectives.

6.14.4 Undeveloped Land Adjacent to the Waterway

Much of the land to the east of the River Lee Navigation is undeveloped and lies close to the water table and as a result supports a rich variety of wetland habitats interspersed with localised pockets of native scrub vegetation. The majority of this land is currently used for grazing cattle and horses.

This land is important to the setting of the River Lee Navigation and has a valuable potential as a waterside habitat. The overhead National Grid powerlines and pylon towers have a significant effect on the setting and limit the potential to enhance this land. Nevertheless there is the opportunity to maintain and improve the species diversity of the existing grasslands, create new wetland habitats, where appropriate, small areas of scrub and copses and greatly enhance the waterside setting of the River Lee Navigation, to which these guidelines would strongly encourage.

Where possible these wetland sites should be enhanced through the planting of appropriate native tree and shrub species and managed to provide a valuable wildlife habitat eg coppice rotation. Public access and educational uses for these sites are also encouraged (see 0 Belt of wood, scrub and marginal aquatic planting between security fence and riverside enables screening and wildlife value within Section 6.12 Principles for Boundary Treatments)

Rising above these wetland areas to the east of the River Lee Navigation lie the grassy slopes of the Thames Water reservoir embankments which are currently grazed by sheep. Due to the operational requirements of Thames Water it is not possible to undertake planting on these embankments. Regular low cost maintenance is also a requirement. Within this there is the potential to use creative maintenance regimes to provide more interesting grassland. This could also be done in conjunction with public art.

6.14.5 Designing for Habitats

Waterside Habitat Creation

Under ideal waterside conditions where human intervention is at a minimum, and bank profile is favourable, a variety of habitats and seral stages can be found, from floating aquatics to woodland. However, the river navigation forms an artificial, engineered waterway, with specific operational and functional requirements. It is important that these form one of the highest priorities in the management of the river navigation. Nevertheless, as the navigation provides an invaluable wildlife corridor, opportunities should be sought to make the most of the nature conservation potential within the operational constraints. Habitat creation should be achieved as follows, where possible:

- the seral stages found naturally along waterways should be replicated, and through maintenance and management techniques, the successional process needs to be arrested to retain the variety in vegetation and habitat types; and
- vegetation should be allowed to colonise naturally to ensure that plants are from local seed sources. This is particularly important in the case of marginal and aquatic plants (see following section).

Trees and Woodland

Woodlands provide one of the most valuable forms of habitats, due to the extent of wildlife supported. As there is little tree cover along the River Lee Navigation, support will be given to the planting of trees in its own right, but also where it provides an other function. Planting should usually be native and typical to the river setting. Grants are available from various sources for tree planting, eg the Forestry Commission.

Marginal and Aquatic Planting

Marginal and aquatic planting provide invaluable habitats for nesting and breeding invertebrate and bird species, help prevent erosion of waterway banks and contribute to improved water quality eg fringing reeds have been shown to act as nitrate sinks.

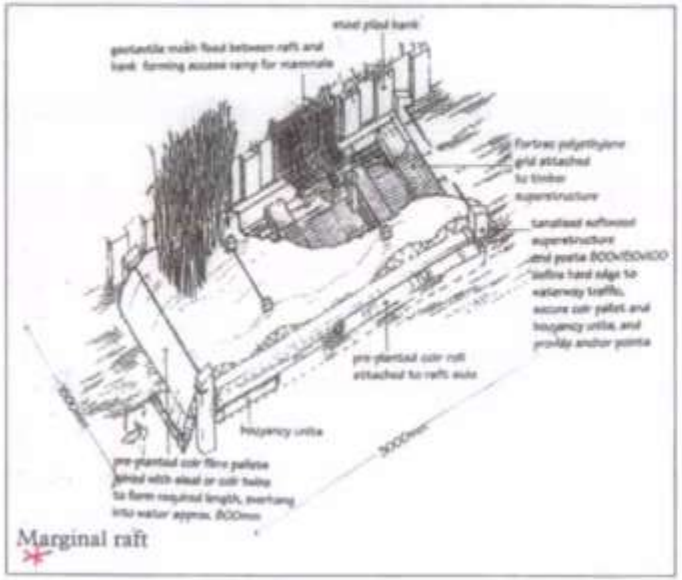
Marginal vegetation occurs naturally where the profile of the river bed is such that shallow water areas are created. Where possible therefore, colonisation of marginal habitats should be encouraged via the construction of suitably profiled waterside embankments. This will also ensure that waterside species are sourced from local seed.

New soil embankments should be shelved into deep water or gently sloping into shallow water, to create the optimum conditions for natural colonisation by wetland species.

In the case of hard edged sites, it will be necessary to artificially introduce marginal and aquatic species through the use of marginal raft boxes and coir rolls (see 0 Marginal raft and 0 Recently placed marginal rafts at Enfield Lock). The use of locally sourced seed is preferable.

For health and safety reasons, the structure needs to be robust enough to withstand the weight of people even though they should be inaccessible to people. It is obviously important to locate rafts away from the main navigation channel moorings.

If marginal and aquatic planting are to be retained at a site, a suitable management regime will be required to prevent siltation of the river bed and the natural succession of marginal to bankside vegetation.



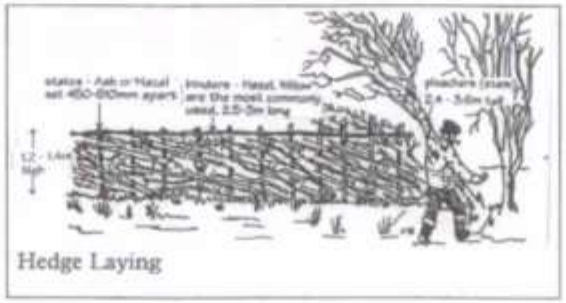
Marginal raft

Recently placed marginal rafts at Enfield Lock

Hedgerows

Hedgerows also provide important species rich habitats for nesting birds, insects and invertebrates. Within the River Lee corridor hedges are used to delineate field boundaries and the towing path from adjacent land.

Existing hedgerows should be retained where possible and appropriately managed. Management operations include hedge laying, gapping up and formative pruning. Hedge laying is particularly successful for increasing hedge density, creating effective stock proof barriers, and being beneficial to wildlife. Managed hedgerows also provide a good investment creating a healthy, long lasting impenetrable barrier the need for additional fencing and providing a unattractive element and habitat.


Hedge Laying

It should be noted that all operations relating to relevant existing hedgerows should be carried out in accordance with the Hedgerow Regulation 1997.

Grass Verges

The grass verges play an important role in the diversity of the river navigation watersides, either providing a well managed, regularly mown strip in urban locations, a place for anglers to sit undisturbed and fish, or as a linear habitat and wildlife resource. It is important to recognise the value of each use and to create and retain as much of the width of these grass verges as possible, and to maintain and manage them in an appropriate manner.

With regard to new development where grass verges are being considered adjacent to the river navigation and where the management of existing grass verges is being undertaken, it is important to provide the right maintenance and management to achieve the most appropriate objectives, appearance and wildlife value.

A closely cut grass sward will provide better access and a more formal, tidier appearance, which will be appropriate in certain locations. For example, opposite housing and office developments that directly front onto the river navigation. It is likely that a narrow strip either side of the towing path will be appropriate to provide better access, where users can move on and off the towing path.

However from a wildlife point of view, it is more beneficial to leave the grass verges uncut, except for an occasional cut each year. Grass verges should be managed in such a manner, wherever possible, without being detrimental or conflicting with other objectives. Grass cutting to benefit wildflower establishment should be carried out once or twice a year, and should be undertaken on the basis of the species mix present or those wished to be encouraged. Two cuts will have the benefit of containing vegetative growth, but should be timed to allow for flowering and/or seeding of the main plant species. Preferably grass cuttings should be removed to reduce fertility and improve species diversity.

When creating a grass verge, either of the following approaches should be undertaken, as appropriate:

Formal Grass Verge

Establish a fertile soil, using compost/soil improver or fertiliser, well cultivated soil and preferably a low maintenance hard wearing grass seed.

* what are the main tenance implications (LBE)

Informal/Meadow Grass Verge

The main objective is to provide a species rich grass verge incorporating a variety of wildflowers. To achieve this it is vital that a low soil fertility is established, and as such no topsoil or soil improver should be used in preparing the ground. Indeed it would be preferable to replace the existing topsoil, with an appropriate subsoil. The soil should be cultivated and seeded. Ideally seed should be collected locally eg a local species rich meadow grassland, or be bought as a mix. Where a mix is used, it should preferably be of local provenance and the species mix should be appropriate to soil type, drainage and the Natural Area classification. Wildflower plugs can be used as a way of improving an existing sward and may be appropriate in particularly situations. However, this can be expensive and not always successful as a means of establishing a wildflower meadow, particularly if the existing grass sward incorporates aggressive species.

6.14.6 National Biodiversity

British Waterways is presently producing a national BAP for all waterways owned and managed by British Waterways. This will include the species and habitat in the UK BAP which occur on British Waterways' waterways, plus others which British Waterways consider to be important to, or characteristic of, waterways. This plan will form the basis of waterway BAPs for individual canals or river navigations and will include the River Lee Navigation. This will provide an important guide for wildlife design and improving biodiversity on the River Lee Navigation. Please contact British Waterways for advice.

6.14.7 Designing for Waterside Fauna

Make reference to LVRPA BAP

Water Voles – one of LVRPA's target species.

Current factors causing loss or decline of the Water Vole population are:

- riverside work, flood alleviation schemes and grazing – dredging and hard edging, may damage burrow systems and cause the removal of bank and aquatic vegetation, whilst heavy grazing removes tall herbs along the banks of the river navigation. The loss of burrows and feeding habitats have a damaging effect on the Water Vole. Therefore, when any such is work is carried out, careful considerations should be given to minimising the damage to existing Water Vole colonies. This should include, where possible, retaining burrows and reinstating marginal vegetation;
- fragmentation of wildlife populations – Water Voles are poor dispersers and are heavily dependant on good waterside habitats to maintain viable populations. The objective should be to prevent fragmentation and encourage the establishment of new colonies. Generally a breeding territory requires 30-50 m of waterway bank. The overall length of suitable waterway, showing dense fringe of emergent vegetation should not be less than 500 m and preferably in excess of 1 km;
- predation by American Mink – it is now well accepted that American Mink is a major threat to Water Voles, but the relation is still poorly understood. It is known that the American mink is more susceptible to the presence of humans than Water Voles, so long as appropriate waterside habitats are retained and managed;
- water quality – Water Voles are relatively tolerant of low water quality, but insufficient is known about the full impacts of differing types of pollution; and
- rodenticides – the use of rat and mouse poisons to control rodents can be detrimental to Water Voles who are equally likely to eat and be killed by the poison.

Work can be done to protect Water Voles, including; ensuring that when riverside work and dredging is undertaken, an assessment of Water Voles and their burrows is undertaken to ascertain location and the best form of protection. Disruption, damage or blocking up burrows should be avoided wherever possible, (it is illegal to block or obstruct Water Vole burrows). If it is necessary to affect a burrow system, the minimum requirement should be the fixing of a perforated drainage pipe to provide a new entrance. A recent development has been the "waterhab", which is a pre-constructed timber module that can be placed at the top of steel piling, creating a less confining access for voles than a pipe.

To improve conditions for Water Voles there is a need to improve water quality and reduce pollution within the River Lee Navigation. The Partners are committed to achieving this wherever possible, but will equally expect developers to be committed to ensuring a high water quality.

As described below, under "Waterside Edges and Planting", much can be done to provide appropriate waterside planting as suitable habitats for Water Voles, and through using edging treatments that are not harmful to Water Voles the damage or loss to burrows and habitats can be avoided. The objective should be to provide a healthy margin of aquatic plants along the water's edge, and a tall sward of vegetation ideally two metres high, which not only provides a good food supply but also gives cover and security from predators.

Maintenance and management of the aquatic margins and grass verges is important. Whilst the offside provides the best habitat, as there is less likely to be disturbance, the towing path side is also of importance. Short swards should preferably kept to the land-ward side of the towing path, leaving as much uncut vegetation along the water's edge as possible. This would not be appropriate adjacent to moorings, where there is a need for boaters to get close to the bank and have easy access to the towing path.

Where rats are a problem, it is important to ensure that there are no Water Voles within the area where poison is to be used, and that correct identification has been carried out. Live capture cage traps are the only safe option and should ideally be used, if there is a risk to Water Voles. Site traps in the open rather in dense vegetation or at the waters edge. Where poison must be used, it should be covered or enclosed in a bait box and placed at least 5 m from the waterway and preferably above ground level.

Birds

Marginal rafts as rolls illustrated in 0 Marginal raft and 0 Recently placed marginal rafts at Enfield Lock of this section can provide not just marginal vegetation, but also a nesting platform. In order to provide a secluded place suitable for nesting, nesting platforms need to be sited in as inaccessible place as possible which will nearly always be on the off-side.

Bats

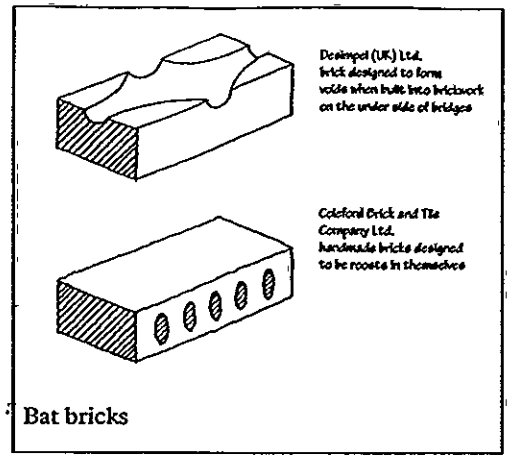
The bat population is currently in decline and as a result is a protected species under current legislation The main factors for its decline, include:

- destruction of vegetation along ditches, streams and rivers;
- pollution of ditches, streams and rivers;
- loss of winter roosting sites; and
- loss, destruction and disturbance of other roosts, particularly maternity roosts

It is therefore important to avoid the destruction of vegetation and existing roosting sites along the River Lee Navigation wherever possible. As previously mentioned pollution of the River Lee Navigation should be prevented with the aim of producing a high quality of water.

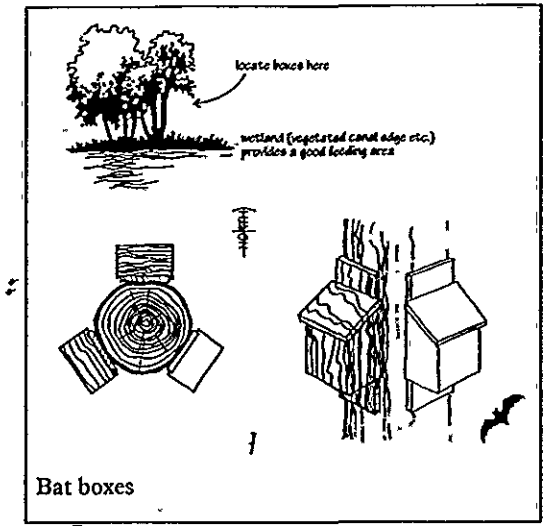
Creating new places for bats to roost is equally important and the following can be considered:

- **Bat Bricks** Various designs of bat brick are now being marketed - These vary from the handmade bricks from Norfolk Bat Group to the commercial bricks made by various brick companies eg Desimpel (UK) Ltd, Coleford Brick and Tile Company Ltd , Marshalls Clay Products. These bricks are of two main types; those which form a roost in themselves and those which are designed to give access to a larger cavity (eg wall cavities) The first type are suitable for fairly stable environments such as ice-houses, etc They do not in themselves provide a secure, stable temperature and humidity roost. The second type are more appropriate to build into bridges and tunnels, placed in front of an existing cavity or, if none exists, over a specially prepared cavity. This is essential if nursery or hibernation sites are required.


Desimpel (UK) Ltd.
brick designed to form
voids when built into brickwork
on the under side of bridges
Coleford Brick and Tile
Company Ltd.
handmade bricks designed
to be roosts in themselves
Bat bricks

- **Bat boxes** have been used with some success as roosting sites and provide a substitute for hollow trees, but should not be used in navigation bridges and tunnels They are of limited use as nursery and hibernation structures because of the lack of insulation

The position of bat boxes needs to be very carefully considered. They are most valuable when placed on trees in areas with a good feeding habitat, being less successful when placed on buildings as, if suitable, the buildings themselves will be used Different bat boxes should be erected giving a range of aspects - facing north and south-east to south-west at the same height



Bat boxes

The following are provided as guidelines to the design of bat boxes·

- they should be sited as high as possible, at least 5 m above the ground,
- the ideal size is 10 cm front to back and 12 - 18 cm high;
- the roof should be sloping with a hinged lid secured with a catch;
- wood should be very rough all over to allow bats to grip,
- no wood preservative should be used; and
- use vegetable dies to darken exterior and improve heat absorption.

6.15 Crime Prevention

6.15.1 Introduction

Criminal activity is common and occurs in most situations Waterways are no different in this respect and can create threatening environments in which the opportunity for crime is relatively easy. Waterways are long linear routes and if development, boundary fences and walls are close up to the towing path or offside path and the waterside, with few access points, this could create an threatening environment for escape.

Official police records indicate that crime is relatively low along the waterways. However, this may not be giving the true picture, as crime figures are based on·

- reported crime;
- crime which may be adjacent to a waterway but may not be recorded as occurring on the waterway, when in fact it was a contributing factor; and
- often a bias in favour of a particular crime and not reflecting the true volume.

The issue of crime prevention should be addressed at the very outset of all waterside development and improvement schemes to enable full consideration to be given to the safety and security of all proposed waterway features and potential users and ensure the measures implemented are non-intrusive, fully integrated features of the finished scheme.

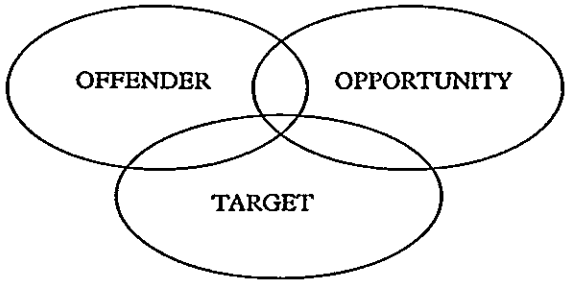
British Waterways are currently working with the Metropolitan Police Crime Prevention Design Team on a national document which discusses the causes of waterside crime and the role that design, site planning, site management and community involvement can play in reducing such criminal activities. The document is entitled "Under Lock and Quay" and is due to be published shortly. This will provide an important guide for those considering the design of crime prevention within development proposals and will also be used in the assessment of planning applications

The main issues raised by the document are summarised below. It is recommended, however, that detailed reference is made to the study itself

A full review of crime prevention should be undertaken in the Brimsdown area These include rationalisation of existing accesses and improvements to existing boundary treatments to help reduce their impact on the waterside frontage

Why Crime Occurs

In order to appreciate the reasons behind criminal activity, it is important to understand the crime equation illustrated below:



The diagram shows that if a crime is to be committed, there needs to be a potential TARGET or VICTIM, an OFFENDER and the OPPORTUNITY. By removing one of these three factors, a crime cannot be committed

Most crimes are opportunistic, approximately 85% of all crimes In order to reduce the OPPORTUNITIES for criminal activity and the FEAR OF CRIME, the following four objectives should always be considered in relation to the River Lee Navigation

6.15.2 Objectives

Put the Site User in Control of Their Environment

This can be achieved by

- giving the site user full visual awareness of the waterway corridor, reducing the occurrence of blind spots such as poorly designed bridge abutments and tunnels or the poor siting of planting belts, behind which offenders can lurk unnoticed
- the creation of user friendly spaces and environments in which a site visitor feels confident and comfortable.
- the creation of sufficient numbers of clearly marked or visible access and bridges. The use of distance markers to the nearest access point gives the waterway user a sense of confidence in their environment

Ensure High Levels of Visual Surveillance along the Waterway

Surveillance of an area will help deter criminal activity; if offenders feel they may be being watched they are less likely to commit crime. Locals, visitors and boaters will also feel more confident in visiting the waterway if they know there are other people around at the same time. Surveillance may take the form of·

- informal surveillance by waterside users, boaters, anglers, passers by, adjacent residential and business users;
- organised, yet informal, surveillance through schemes such as Neighbourhood Watch, Boat Watch etc ;
- formal surveillance through the use of Closed Circuit Television Cameras (CCTV). This type of surveillance is usually employed on sites with high rates of criminal activity, but it is now increasingly being considered in relation to waterside sites where safety is a known problem. CCTV may also be required where crime is a 24 hour a day issue yet surveillance from adjacent developments is only present during office hours Formal waterside surveillance may also be undertaken by patrolling bailiffs and British Waterways Patrol Officers, and
- install lighting where necessary, particularly where a site is used for legitimate purposes eg commuting after dark.

Instil a Sense of Ownership/Understanding of the Waterway Environment

Much criminal activity for example vandalism, graffiti and wilful damage, results from a lack of interest and respect for the waterway environment. Community action groups which actively work towards improving the waterway environment, create a sense of ownership and pride in the waterway which can potentially reduce the levels of criminal activity. There are already many such groups with a keen interest in the waterways and their enthusiasm should be encouraged.

Both British Waterways and the police undertake education programmes in conjunction with schools and such programmes should be encouraged.

Remove the Means to Commit the Crime

Waterways and their surroundings frequently offer the offender the raw material with which to commit crime eg bricks, metal posts, graffiti tolerant walls, inflammable structures and poorly maintained paving Through careful selection of site furniture and materials, and good maintenance, the incidence of damage may be substantially reduced.

6.15.3 The Role of Site Planning and Design

It is generally recognised that the best form of crime prevention is to eliminate or reduce the potential for crime in the planning and design stage of development. This is supported in a government circular, issued in 1994, entitled "Planning Out Crime".

Site planning is a fundamental stage in the design process during which the end use of a site and its layout are resolved. Through careful site planning and design, levels of waterside related crime and the need for extreme site security measures such as high level security fencing and CCTV, can be substantially reduced.

It is British Waterways and London Metropolitan Police experience that the most successful and safe waterside areas are mixed use developments with buildings and spaces overlooking the waterway and are accessed from the towing path providing natural surveillance and policing

Careful siting and orientation of buildings and their relationship with adjacent areas of open space can also help improve natural surveillance, improve site lines and reduce the occurrence of blind spots.

The location of access points and pedestrian footpaths can inadvertently increase the potential for unlawful entry to buildings. For example the existing waterside treatment to the offside of the Lee Valley Navigation which deters mooring and pedestrian access effectively reduces opportunities for intrusion to adjacent industrial premises.

The scale of the proposed built form is an important factor in creating a "comfortable" waterside environment which does not overpower the site user of make them feel vulnerable to attack.

The choice of site materials at the detail design stage can also help to achieve the objective of removing the means to commit a crime and the following should be considered:

- avoid specification of easily dismantled materials or use below ground fixtures for items such as benches, bollards and lighting,
- the use of fire resistant materials where possible and appropriate;
- backless seating with intermediate arm rests to avoid loitering and inappropriate use,
- graffiti resistant surfaces such as textured walls or graffiti resistant paint;
- wall mounted lighting to the offside of the navigation out of reach of potential offenders; and
- avoid specification of litterbins in close proximity to high profile sites eg the Enfield Energy site due to risk of planting of incendiary devices.

6.15.4 Maintenance and Management

Poor site management can exacerbate the problem of crime particularly that of vandalism and graffiti. For example, if the results of vandal activity are not removed from a site it is implies that there is a general lack of interest and pride or care for the area and further criminal acts are likely to follow.

A site management regime should include such operations as graffiti clearance, litter removal, replacement and repair of damaged structures.

6.15.5 Community Involvement

An understanding and interest in waterway history and ecology can promote greater respect for the waterway environment as a whole Increasing public awareness of these issues can be through the use of information boards, community action groups, lectures and activity days

6.15.6 Development and Open Spaces

The principles of good residential and industrial design, and mixed use development, should be followed (refer to Sections 6.3, 6.4 and 6.5) These principles are based on the four objectives of crime prevention, and will significantly reduce the likelihood of crime being committed where developments abut the River Lee Navigation

6.15.7 Boundary Treatments

Traditionally waterside developments have turned their backs on the river navigation, preferring to fence off the waterspace from inhabitants and users alike. Such developments often created the type of conditions now considered unsafe - high solid fences and walls. However, with careful design much can be done reduce crime (refer also to Section 6 12 Principles for Boundary Treatments), for example.

- for premises on the offside of thé river navigation much can be done to use the water as a moat. Access is denied without recourse to a fence Land modelling and deterrent planting can provide additional protection,
- re-landscaping schemes provide the opportunity to design out crime by ensuring there are no places to lurk, or provide cover for an ambush and that recessed areas are avoided;
- introduction of lighting which can make walkways appear safer and more secure Every opportunity should be taken to light the waterside from adjoining premises, or existing structures. In many cases low level lighting can be incorporated with other service facilities, eg service bollards/pods

However, it is important to stress that security measures taken by building owners are considered in the context of the risk to the users of the waterway. The use of revolving "cacti" spikes or razor tape should only be suggested as a last resort for existing premises with particular problems or within an extremely high risk area

6.15.8 Design Considerations

Development proposals should consider the following design issues:

- reduce the need for excessive security measures,
- increase the need for visual surveillance;
- reduce the opportunity for unlawful entry into property,
- ensure external works are detailed so as to be secure and vandal-proof,
- retain waterside character,
- encourage mixed use, incorporating uses that will use waterway over a 24 hour period,
- locate buildings and open space so that they overlook a waterway, so as to provide natural surveillance;
- avoid blind spot, where people can lurk;
- avoid buildings that create an oppressive character,
- establish good pedestrian circulation, with plenty of access points, preferably illuminated. Construct bridges to maintain circulation,
- encourage pedestrian generating activity along the waterfront, to provide natural surveillance, and
- encourage greater visual access

6.16 Water Safety

6.16.1 Introduction

The waterway network passes through rural and urban areas, providing direct access to water. Water provides a distinctive feature and attraction, but brings with it inherent risks and dangers. Roughly 75% of all drownings take place in inland waters of which, in1992, 9% occurred in canals

Preventing access to the watersides of river navigations and canals is impracticable, unreasonable and unworkable. The objective is to make users aware of the risks and design out risks and hazards, or minimise, wherever possible. Where it is not possible to remove unacceptable risks or hazards by design; appropriate prevention measures should be provided.

The partner organisations are committed to providing a safe attractive environment for users of the Lee Navigation and surrounding areas The Partners will seek to ensure that within their powers the River Lee Navigation is a safe place to use. As part of this it will require developers and other organisations undertaking improvements to ensure that there are good water safety principles and standards incorporated into their designs. As such the following guidelines are provided to assist in this process. Furthermore British Waterways will be happy to assist in providing more specific guidance relating to a particular development or improvement.

As part of the process of ensuring a high water safety standards, developers and other organisations will be required t undertake a User Safety Assessment. The purpose should be to ensure that there is a safe environment along the waterside for both waterway users and the general public, whether invited or not. This submission will be the subject of acceptance or otherwise by the Chief Safety Engineer of British Waterways. This will be a two stage risk assessment process - an assessment of any outline proposals and a more comprehensive assessment of detailed design proposals. Early discussions with British Waterways are strongly recommended.

Some of the issues a User Safety Assessment may consider include the following:

- the likely risks and hazards that may be encountered by users;
- consideration of how risks and hazards can be eliminated or minimised through planning and design;
- preventative measures to reduce risks and hazards;
- consideration of the effect of incorporating safety measures and the impact it may have on other waterway issues;
- means of summoning assistance from and access for the emergency services;
- prevention of accidental immersion;
- immediate rescue facilities for those in the water, and
- appropriate design details and signage to satisfy the requirements and recommendations of British Waterways Safety Officer and RoSPA

6.16.2 General Principles

- Safety issues should be considered at the outset of any project, and should be fully incorporated into the design stage, as well as ideally a revaluation and monitoring of safety issues once implemented.
- The use of the waterside by the general public is to be carefully assessed in terms of the numbers, the activity and the level of responsibility/supervision of those who may be reasonably anticipated to use the area.
- Level changes which present a safety hazard should have railings or bollards and chain to a consistent approved design, fixed to the waterway wall.
- Designs should take account of the flood risks and shall allow access to flood defence structures where required by the Environment Agency.
- The siting and accessing of any new buildings within lockside areas must minimise conflict with lock operation equipment. The siting and access to new buildings within the lockside area must also take account of British Waterways' additional space requirements of allowing crane access in the event of boat on fire within a lock pound.

6.16.3 Planning and Design

Risks and hazards can be eliminated or minimised at the planning and design stage, through considering, for example, the following:

- preventing vehicular access, wherever possible, except for emergency vehicles and access to slipways;
- routes, access points, and open space along the navigation;
- use of planting to deter access to the water, while still incorporating the principles of good crime prevention;
- selective use of lighting in urban area and where appropriate to light unsafe areas;
- when designing moorings avoid.
  - ropes that trail across the towing path;
  - taps that allow water to spill across the towing path;
  - mooring bollards and rings which can be easily tripped over; and
  - wherever possible, within mooring basins and marinas, locating moorings close to a publicly accessible waters edge,
- where pontoons are used for moorings, access should b restricted to boat owners, through the use of controlled access points This will not only improve crime prevention, but will also increase water safety, and
- controlling and directing the public along the waterway. For example:
  - only creating new access point where sufficient space,
  - avoiding narrow pinch points for the location of facilities;
  - deliberately attracting visitors, through design, to one location as opposed to another, thereby minimising access to more hazardous areas; and
  - diverting footpaths away from hazards and using deterrent paving or planting to keep visitor safe.

6.16.4 Waterside Barriers

Waterside railings or barriers should only be used where necessary These are most likely to be used where there is a high risk of falling into the water, or where there is pressure from users, within a restricted space, along the waterside.

They should be capable of preventing persons falling into the water or onto moorings, without causing a visual intrusion to the waterside setting Equally, they should be designed to create an attractive element that integrates well with river setting and other external features

The use of barriers will be influenced by what is happening on the water, and whether boat access is also required to the quayside, lockside or waters edge, for leisure or maintenance purposes. Few waterside barriers need to be higher than 1 2 m and in design terms should ensure views across the river navigation are not restricted

Some removable railings and posts should be incorporated for the purposes of allowing maintenance of the waterway wall or any mooring equipment

6.16.5 Lighting

Lighting can improve safety and crime prevention along the waterside However, it can also increase light pollution and further urbanise a location. This may be an important consideration in a semi-rural or rural location As such lighting should be carefully considered and provided, where use of the waterside is required, or is beneficial during the hours of darkness It should also be capable of improving safety without there being a detrimental effect on the visual qualities of the river setting

Lighting should be designed in accordance with the guidance set out within Section 6 10 Waterside Furniture.

6.16.6 Signage

Care should be taken to avoid the over use of signs as these often add visual clutter and are not as beneficial as other forms of safety measures Prevention of risks and hazards through planning and design should always be undertaken first, and where other measures would not be appropriate. Signs should be simple but give sufficient information to be of benefit to the users and be aimed at the appropriate user.

Signs should be designed in accordance with the guidance set out within Section 6.10 Waterside Furniture

6.16.7 Life Saving Equipment

Safety equipment should only be considered as a last resort when risk and hazards cannot be reduced to an acceptable level. Safety equipment can be very important and assist in saving lives. However, it depends on someone witnessing an accident, knowing what to do and having the ability to use the equipment without endangering themselves.

Equipment may include life buoys, reach poles and throws, and rocket lines These are often susceptible to vandalism and as such should only be used where there is likely to be a low level of vandalism or is in a well managed area.

Life saving equipment where provided or deemed necessary should ensure its visual consistency with hard landscape details and other elements of waterside furniture (refer to Section 6.10 Waterside Furniture).

A number of case studies have been prepared to illustrate the scope and potential for recreational/amenity and aesthetic improvements within the study area. ~~The aim is to demonstrate good practice in design, development and nature conservation principles already identified in the study and illustrate British Waterways and the partners aspirations.~~ The ideas contained in the case studies could be applied to other sites or issues within the study area.

The selected case studies are concentrated in key areas of opportunity, illustrating the potential of these particular areas.

The examples chosen show:

- towing path improvements;
- environmental and ecological enhancements, including habitat creation;
- access improvements;
- new public spaces;
- recreational and development opportunities,
- increased utilisation of existing waterspaces.

It is anticipated that the wide range of case studies would:

- form the basis of an initial development or design brief;
- guide the feasibility stage of a project;
- provide a detailed design solution which could be progressed as a separate project;
- influence landowners, businesses, developers and other partners, providing inspiration/guide for change and improvement.
- unlock potential funding for the ~~schemes and ideas shown, as~~ well as for ~~other ideas within~~ the Lee and Stort Navigation ~~corridor.~~ replace with *

In the future, further work is undoubtedly needed on all the case studies illustrated to ensure all relevant issues and requirements for each site are taken fully into account. This would include consulting with all the relevant parties about the proposals and how they would be implemented.

The location of the selected case studies is listed opposite and shown below.

* not all aspirations parties have been referred to ..

* potential funding sources have been identified to be agreed in further discussions between parties.

7.1 Swan and Pike Area

7.2 Energy Centre Waterfront

7.3 Millmarsh Lane

7.4 Johnson Matthey/Leggett Waterfront

7.5 Reservoir Embankments

7.6 Overview : Ponders End

7.7 Columbia Wharf : Ponders End

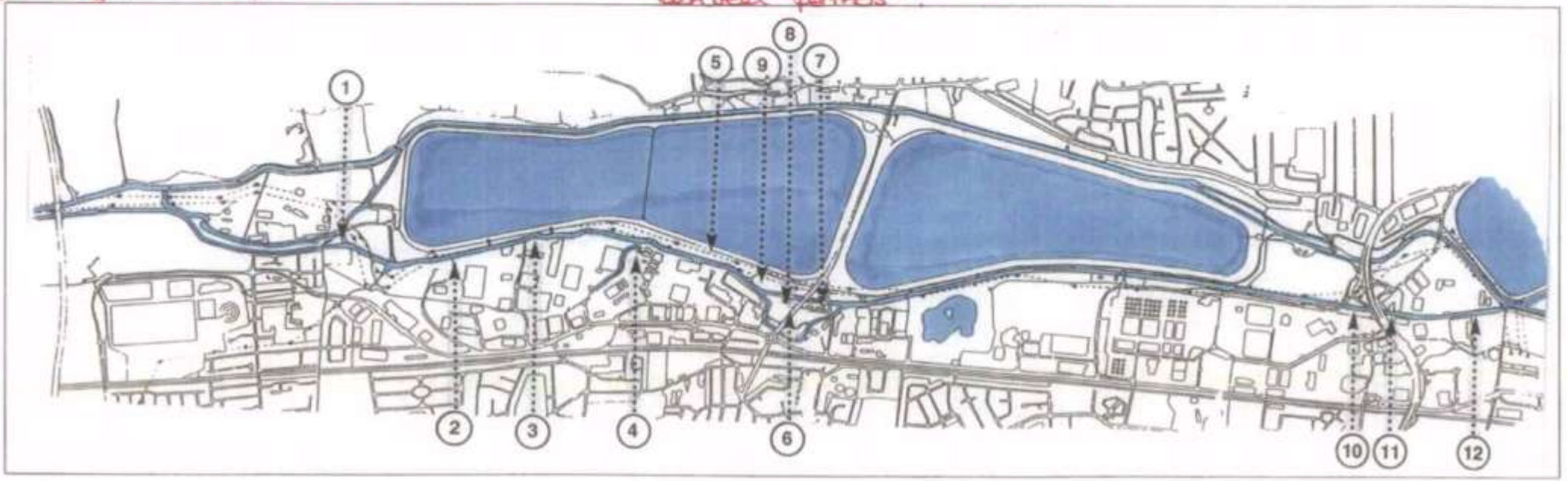
7.8 Navigation Inn : Ponders End

7.9 South Marsh : Ponders End

7.10 Area North of North Circular

7.11 Area South of North Circular

7.12 Leeside Road Waterfront



NB Before any detailed proposals are prepared, a survey/analysis of the existing ground and ecological value of the site should be undertaken.

1 Woodland to the north of Swan and Pike Pool, managed to create a more diverse woodland habitat Access from the towpath along the northern boundary of the pool to be prevented and sections of waters edge allowed to re-establish as a wood /pond edge habitat Fishing platforms to be retained at the NE corner with managed access around them The eastern boundary of the towpath to be improved by the replacement of the timber retaining wall with a brick retaining wall

2 The bus turning circle would be resurfaced in brick paving, the crash barrier removed, and the edges paved in a raised brick trim to allow for over run. The island also provides the opportunity for a focal point where a sign/public art might be used

3 The car park has been redesigned to create more parking spaces, provide a more attractive, informal parking area and establish a safer more comfortable environment to use. Trees would be planted and managed to create a raised canopy with low/medium ground cover planted beneath, enabling cars to be largely screened but allowing views into and out of the car park. The car park would be resurfaced with a sealed gravel (Fibre-dec or similar) and a knee rail erected instead of the two bar fencing, to reflect the objective of creating an attractive, informal environment. Picnic tables would be provided and located close to the car park.

4 Informal seating is proposed using a simple robust, design Seating predominantly arranged to take advantage of views out towards Lippits Hill and the southern end of Epping Forest or focused inwardly.

5. Native scrub with pockets of low/medium sized trees planted to create enclosure and establish a variety of habitats and species diversity All species to be chosen to ensure that mature heights are in keeping with National Grid restrictions and the LVRPA's Landscape Design Guidelines

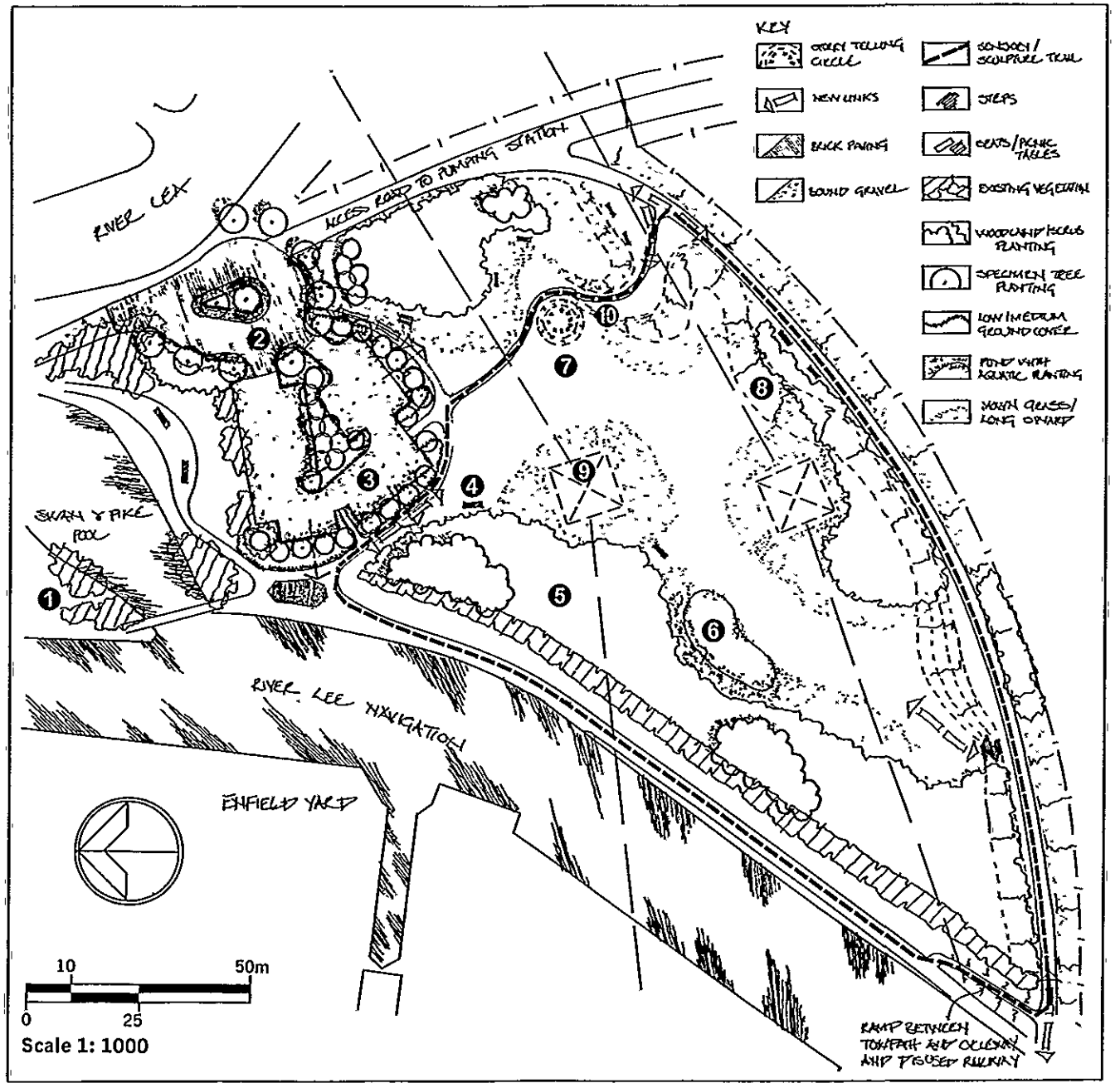
6 Pond created to provide interest and additional habitats This would be planted with emergent/marginal aquatics

7 Central to the site would be a mixture of mown and long meadow grass The former would be regularly mown to allow informal recreation. These areas would be defined by longer meadow grass, managed by cutting twice a year to allow a more diverse herbaceous habitat to establish and create greater visual diversity. A 2-3m mown strip would be maintained around the pylon towers

8. The embankment of the disused railway line strongly defines and characterises the study area, forming a distinctly linear and engineered landform It is proposed that this would be reshaped by using excavated material or importing as required A more flowing, curvilinear landform would be sculptured, varying the angle of slope along its length This may be seen as a gently curving ramp or as a terraced slope Disused railway line itself would be resurfaced and used as a footpath/cycleway

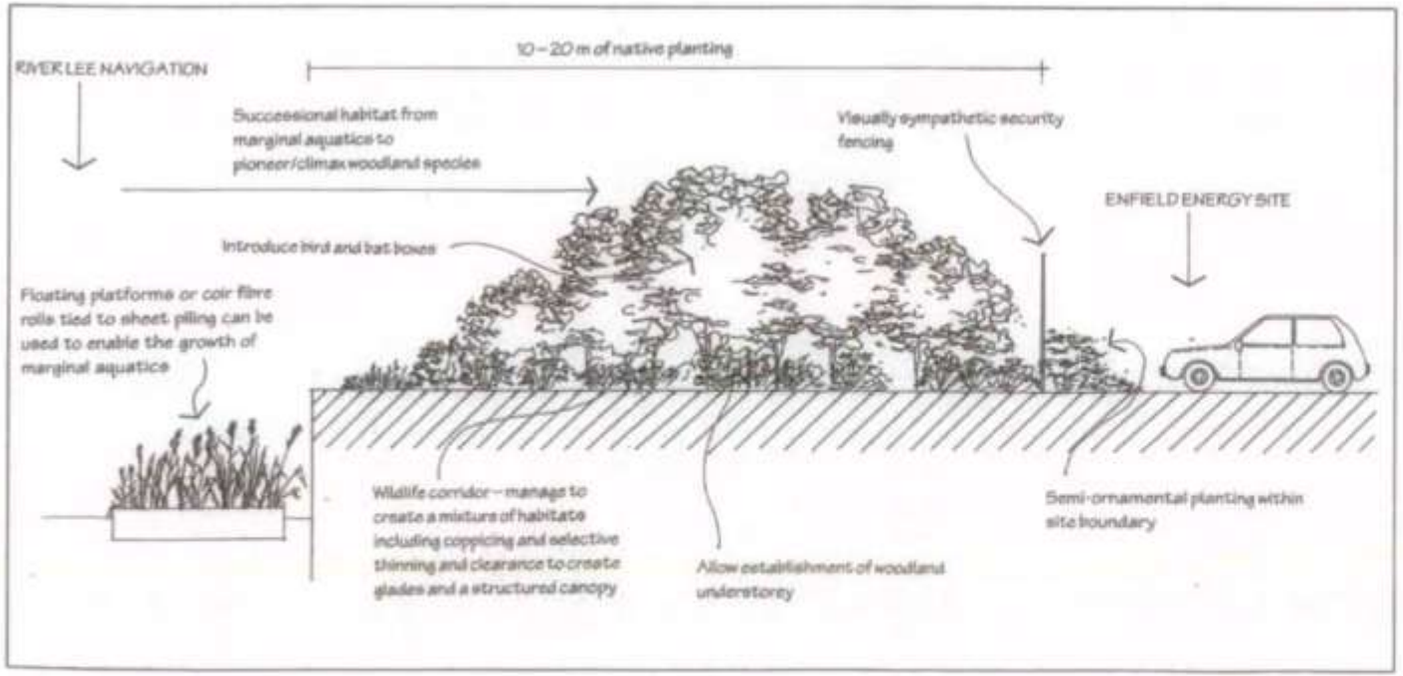
9 Proposals should investigate with the National Grid the potential of using pylons for public art and erecting kestrel boxes

10. Creation of a sensory/sculpture trail which could be based around the interrelation of the history of the river, industry and wildlife Features, elements and sculpture could be set along the trail, in which children could collect evidence This may additionally include riddles and inscriptions within these features as well as the features themselves The information gathered could be used to tell stories in the storey circle The elements and sculpture should encourage the use of the five sensory abilities and should be accessible to the disabled Proposals to include 1·12 ramp from bridge



(Refer to Steve Jaggard (LBE))

ELEVATION
"Paladin" (e.g. supplied by Twil Fencing Products) medium security fencing - weld mesh, powder coated in black or dark green. This has been used in a number of locations, e.g. Sheffield Basin, and business premises bordering the Coventry Canal.
Timber ladder attached to piling, with timber fender to help protect from collisions by boats
ELEVATION 1:20
PLAN 1:20
timber fender also supports ramp


RIVER LEE NAVIGATION
10 – 20 m of native planting
Successional habitat from marginal aquatics to pioneer/climax woodland species
Visually sympathetic security fencing
ENFIELD ENERGY SITE
Introduce bird and bat boxes
Floating platforms or coir fibre rolls tied to sheet piling can be used to enable the growth of marginal aquatics
Wildlife corridor – manage to create a mixture of habitats including coppicing and selective thinning and clearance to create glades and a structured canopy
Allow establishment of woodland understorey
Semi-ornamental planting within site boundary

In its current state, lacking screen planting and an appropriate boundary treatment to the waterside, the Enfield Energy site development has a major impact on the waterway environment.

This case study examines ways in which the impact can be substantially reduced from the towing path and waterway itself. It is recognised however, that due to the scale of development, full screening is not possible.

Boundary Treatment

Full consideration should be given to the security of the site given the nature of the work conducted there. There is a requirement for high level security fencing, although due to the lack of public access along the offside and the navigation acting as a "moat", the height of the fencing can be kept to a minimum.

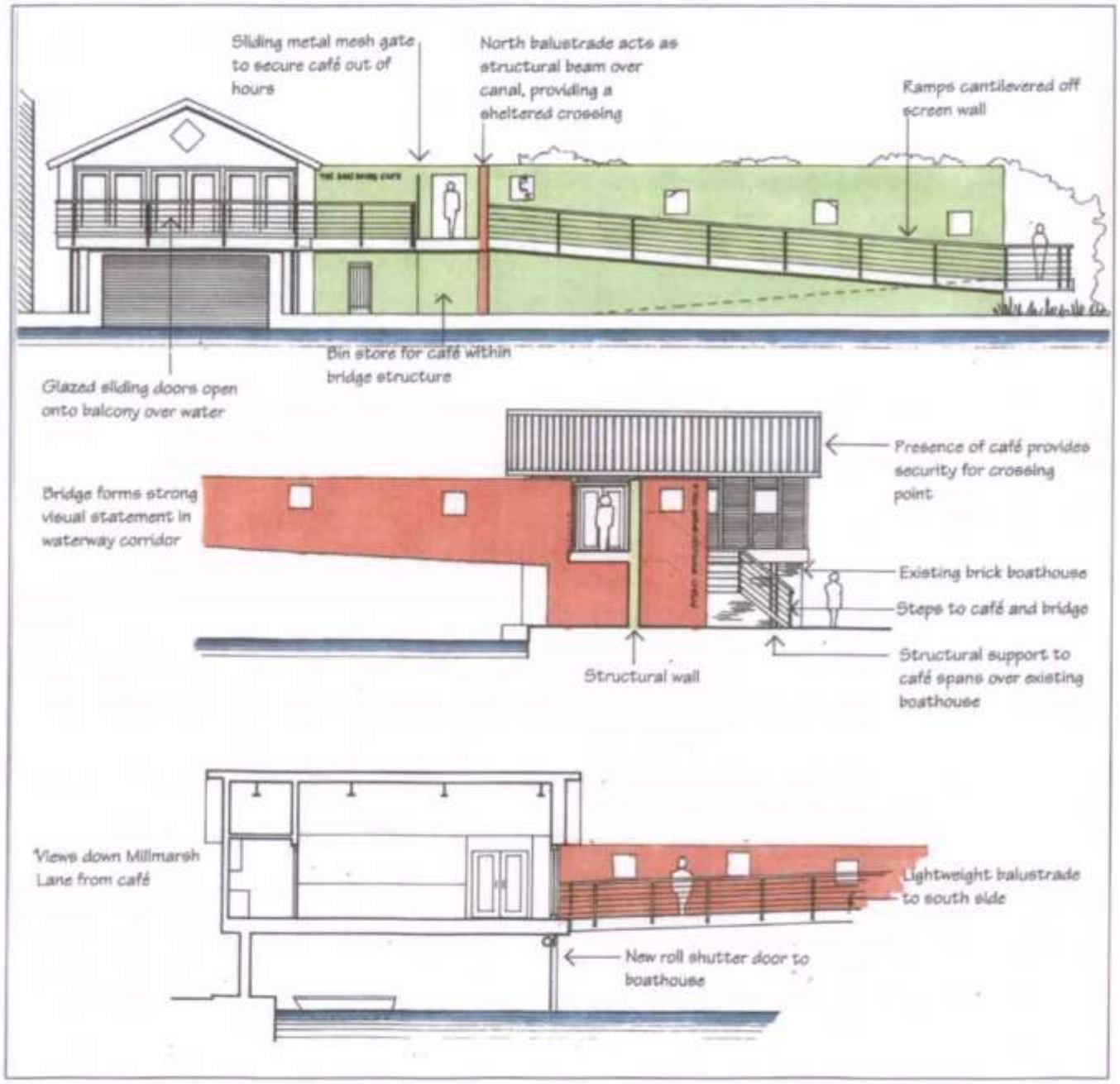
The use of dense woodland scrub planting between the waterside and the fencing, will increase security by creating a largely impenetrable area, whilst screening the development and reducing awareness of development beyond.

From the current site layout for the Energy Centre Site, it is envisaged that the siting of car parking closest to the waters edge will facilitate a wide planting strip. The width is sufficient to create a range of seral stages and a natural succession of vegetation and habitats, from marginal and aquatic planting to climatic woodland. All species used in conjunction with waterside and screen planting should be native and of local origin. Management should be undertaken to maintain and create a range of habitats and establish a structural woodland. Refer to Waterside Design and Development Guidelines.

The use of trees in the car parking area will also help extend the screening potential further into the site without compromising numbers of car parking spaces.

Modification To The Waterway Wall

It is also advisable in this location to extend planting into the water. Due to the engineered solution to the waterway wall, this can be achieved through the use of floating vegetation boxes and modification to the waterway wall. This would also be a desirable location to put in animal ramps which reduce the incidence of animal drownings. A typical example is shown.

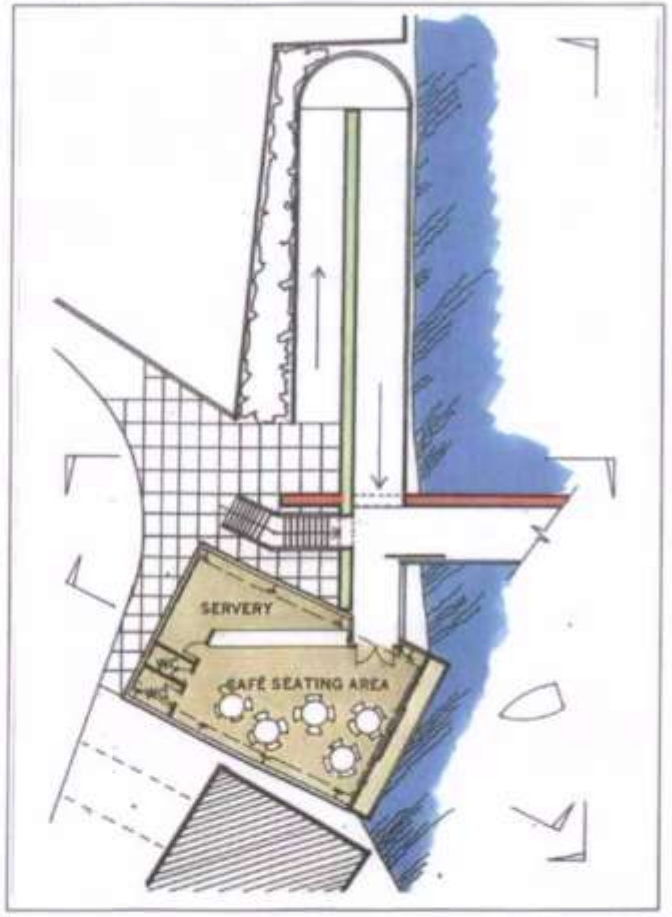

Sliding metal mesh gate to secure café out of hours
North balustrade acts as structural beam over canal, providing a sheltered crossing
Ramps cantilevered off screen wall
Glazed sliding doors open onto balcony over water
Bin store for café within bridge structure
Bridge forms strong visual statement in waterway corridor
Presence of café provides security for crossing point
Existing brick boathouse
Steps to café and bridge
Structural wall
Structural support to café spans over existing boathouse
Views down Millmarsh Lane from café
Lightweight balustrade to south side
New roll shutter door to boathouse

Café and Bridge Crossing

Provide new pedestrian crossing point at the end of Millmarsh Lane in combination with café to improve access to the waterway corridor, particularly for those working in the Brimsdown area and provide a waterside destination point for workers and those using the Lee Valley Park.

Café used by workers at lunch times, either as takeaway or eat in, throughout the year, and seasonally by visitors to Lee Valley Park. Café could also provide venue for community activities and link to any boating activity on site.

Retaining the boathouse and using the name gives the area a strong identity. This needs to be reinforced by strong design. Bridge to form a strong landmark feature.



The future development of this site for industrial use should achieve the following:

- Enhance the waterway corridor visually
- Improve the ecological habitats
- Compliment the work already undertaken creating the Mossops Creek linear Park
- Encourage interaction between the workers and the navigation
- Help improve informal surveillance of the towing path to further encourage it's use.

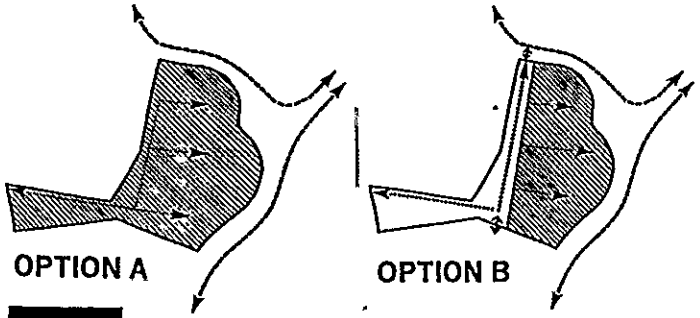
The site provides opportunities for developing a better relationship between the employment area and the navigation and the Lee Valley Park.

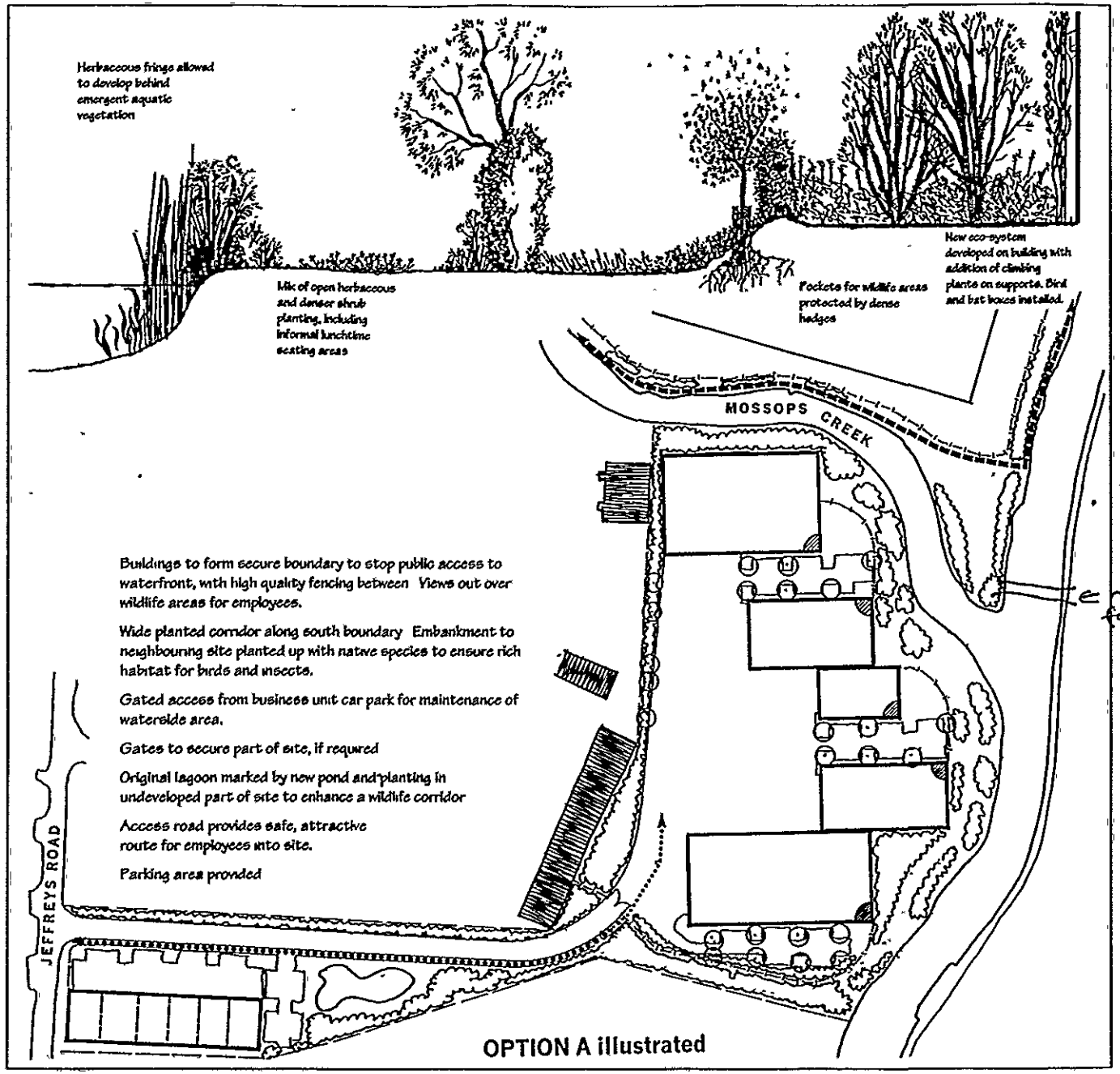
This can be done by;

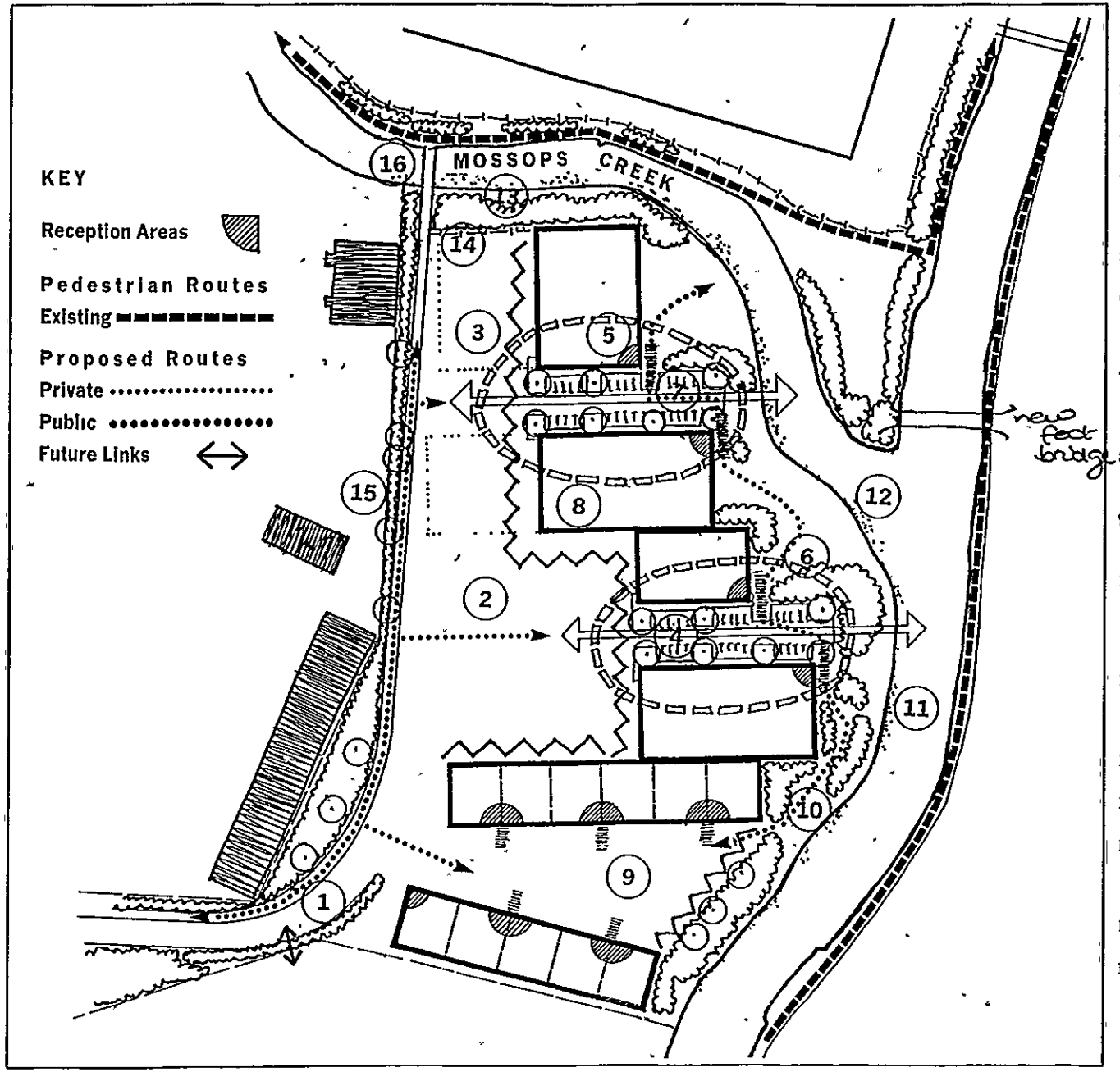
- including pedestrian and cycle access through all or part of the site, either public, or for site employees only
- forming a green zone between the new development and the water which compliments and extends the Lee Valley Park and Mossops Creek Linear Park and can be used by people
- placing reception areas and offices over looking green waterside zone, with visual or physical access for employees, as appropriate
- establish a maintenance regime to encourage and develop the diversity of wildlife in and along the water, including supporting the enhancement of Mossops Creek as a fish nursery.

Option A maintains seperation of the site for security while enhancing the ecology and attractiveness of the waterway corridor.

Option B provides a physical link through the site, improving access for cyclists and pedestrians around the area.




Herbaceous fringe allowed to develop behind emergent aquatic vegetation
Mix of open herbaceous and denser shrub planting, including informal lunchtime seating areas
Pockets for wildlife areas protected by dense hedges
New eco-system developed on building with addition of climbing plants on supports. Bird and bat boxes installed.
MOSSOPS CREEK
new foot bridge
Buildings to form secure boundary to stop public access to waterfront, with high quality fencing between. Views out over wildlife areas for employees.
Wide planted corridor along south boundary. Embankment to neighbouring site planted up with native species to ensure rich habitat for birds and insects.
Gated access from business unit car park for maintenance of waterside area.
Gates to secure part of site, if required
Original lagoon marked by new pond and planting in undeveloped part of site to enhance a wildlife corridor
Access road provides safe, attractive route for employees into site.
Parking area provided
JEFFREYS ROAD
OPTION A illustrated



1. Access road into site needs to provide safe and environmentally attractive access for pedestrians and cyclists, as well as large vehicles, to help encourage use of alternative methods of commuting in the area.
2. Heavy vehicles, external working areas and storage areas screened from waterside by buildings
3. Site layout designed to ensure future extensions are possible to buildings without being detrimental to the waterside environment.
4. Landscaped openings included to break up mass of building frontage along the navigation, to allow offices and their entrances to front onto the waterside and to create connections through the site to encourage access to the water by employees at lunch times
5. Buildings orientated to ensure entrances and offices located to overlook the waterspace and landscaped areas for visual and safety reasons.
6. Landscaped waterside areas to include a mixture of formal and informal seating areas, to encourage use of the area by workers while maintaining suitable areas for wild life. Maintenance regime to incorporate a mixture of high and low maintenance areas
7. Car parking located near to building entrances and in proximity to the waterside to ensure activity and over looking close to the water. This assumes the parking needs to be limited, and appropriate screening to ensure cars do not dominate the view
8. Mixed size of units shown, set in a staggered manner to the water front to form a landscape margin of variable width, and ensure surveillance along the water as well as across
9. Starter Business Court with a waterside unit providing shared facilities for the whole or part of the site in an attractive waterside setting, eg conference/ meeting room, café, or reception area
10. A variety of spaces formed along the waterside with grass and shrub areas, woodland, and aquatic margins, with a mixture of formal and hard landscaping relating to the buildings and parking Informal access created along the waterfront, connecting each of the parking courts together for use by site employees
11. Sections of water edge re-profiled to form shallow aquatic margins to encourage a wider variety of habitats to improve aquatic environment on the off-side and help the water act as a moat to secure the development.
12. Open areas with views into and out of the site, contrasting with more screened and enclosed areas of waterside
13. Quiet refuge area for wildlife for nesting etc. Public viewing possible from other side of creek
14. Where secure boundary needed low visibility fine mesh security fencing should be used with screen planting to reduce visual impact further Note fencing should avoid a simple return at right angles towards the water edge
15. New hedge to form screen planting to boundary with adjacent site and to include individual trees to provide further height.
16. New bridge across Mossops Creek to linear park to link Jeffreys Road and the towing path once bridge over navigation is built

Much of the land to the east of the navigation is in Thames Water ownership, consisting of well-maintained but monotonous grassy reservoir embankments and flat land

The grazing regime, although necessary for closely monitoring the structural stability of the reservoir, inhibits the diversity of the wildlife habitat and the opportunities for alleviating the harsh engineered bank profile.

Access to the land is for operational purposes only. Public access is limited for safety reasons to permit holders for bird watching over the reservoir.

Visual improvements to this area would benefit the waterway corridor, as the reservoir embankments are the most dominant feature in this section. Encouraging selected public access to Thames Water's land, for educational and recreational purposes, could also bring benefits to the community, however there are a number of constraints to be addressed. (See annotated section).

Reservoir Gallery

LEE - thinks it's a good idea but questions feasibility

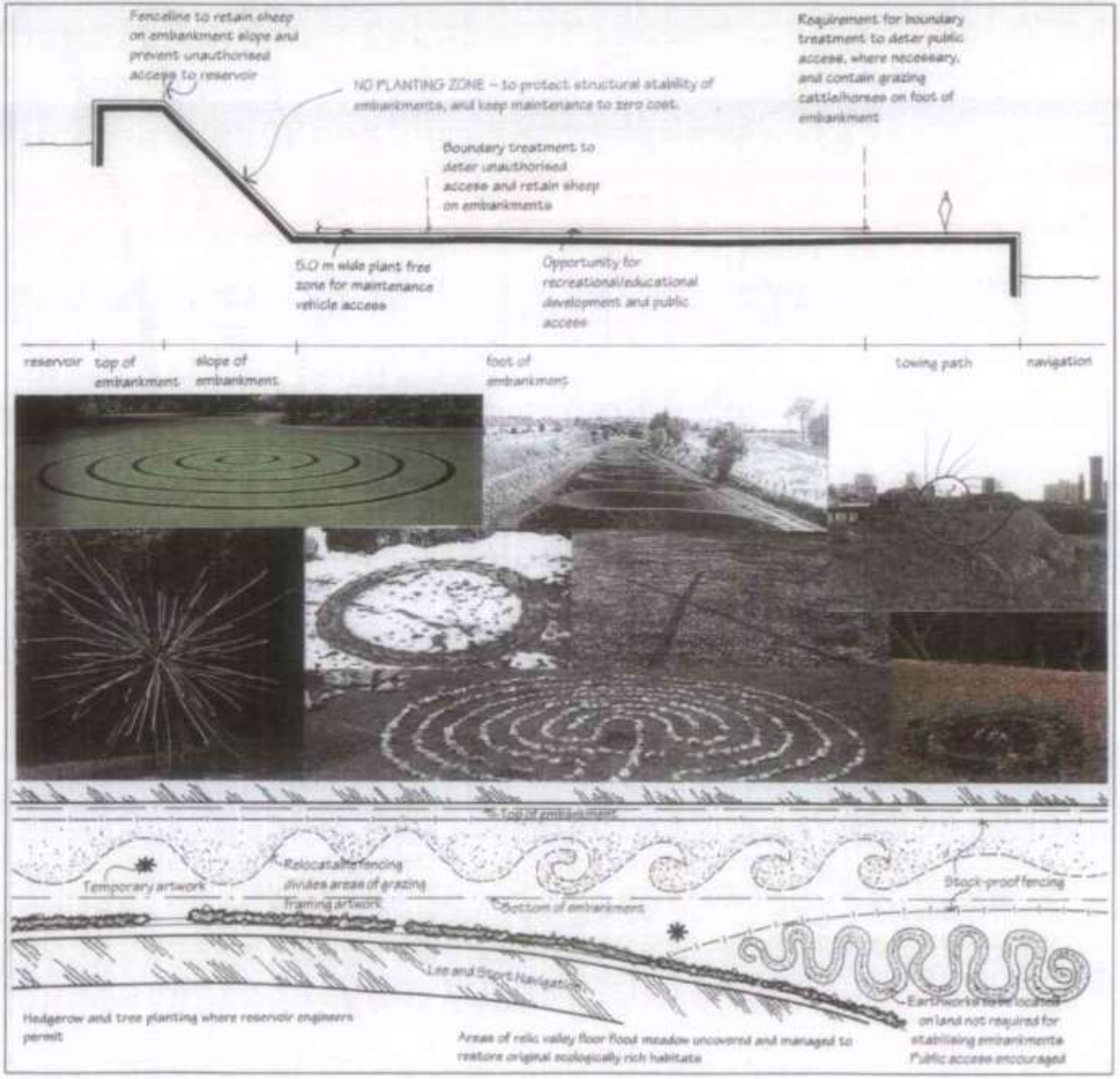
The reservoir embankments have the potential to become a blank canvas for innovative artwork, turning this section of the Lee Valley Park into a giant outdoor art gallery. Art works would need to take into account Thames Water's stringent requirements. This would increase the profile of the area and improve both local peoples' perception of the Enfield section of the navigation, and that of visitors using the waterway and the towing path.

By providing a "destination" and a talking point, in conjunction with other initiatives for increasing access to the length, it should encourage more people to use this section of the towing path, both on a daily basis and for leisure use at weekends.

By involving the community, and particularly school groups, a sense of pride and ownership in the art work itself and in the wider area could be engendered.

The educational potential of this resource could be exploited to the full, with projects taking in many different aspects of the national curriculum, i.e. maths, sciences, arts, ecology, history and geography. Projects could be largely classroom based, with visits to the site and on to the embankment limited. This might involve an initial site visit and a linked trip to learn about a new subject matter which would then provide the theme for the art work, ie learning about Britain's canals or London's water supply. A second visit would allow the group to install their proposals. This might be the end of the project, or the art work which is produced could be part of a monitored experiment.

This would allow local people's imaginations to affect their environment, rather than treatments being imposed from outside. It also gives an opportunity for the partners and particularly for Thames Water to get involved with parts of the community, or forms the basis of a public relations exercise.


Fenceline to retain sheep on embankment slope and prevent unauthorised access to reservoir
NO PLANTING ZONE – to protect structural stability of embankments, and keep maintenance to zero cost.
Requirement for boundary treatment to deter public access, where necessary, and contain grazing cattle/horses on foot of embankment
Boundary treatment to deter unauthorised access and retain sheep on embankments
5.0 m wide plant free zone for maintenance vehicle access
Opportunity for recreational/educational development and public access
reservoir
top of embankment
slope of embankment
foot of embankment
towing path
navigation
Top of embankment
Temporary artwork
Relocatable fencing divides areas of grazing framing artwork
Bottom of embankment
Stock-proof fencing
Lee and Stort Navigation
Hedgerow and tree planting where reservoir engineers permit
Areas of relic valley floor flood meadow uncovered and managed to restore original ecologically rich habitats
Earthworks to be located on land not required for stabilising embankments
Public access encouraged

Art in the Landscape

The land provides some of the earliest examples of man's art. This has frequently taken the form of lines or shapes cut out of a hillside, as in the White Horse on the hillside at Uffington.

Recently an American, Stan Herd has been producing huge but short lived art installations. He uses a variety of techniques. His first installation, the Native Indian portrait shown was formed using the familiar ancient method of turning the soil, but he has been investigating other methods. For example the beer bottle illustrated here was formed on a hillside near Leighton Buzzard by removing the grass and topsoil then planting wheat and poppies. Areas of wheat were strimmed to keep it green against the ripening background. Becks paid a considerable sum for this piece of unusual advertising.

Herd has also used other techniques such as changing the growth rates of plants, either encouraging growth by watering some areas or stunting it in others.

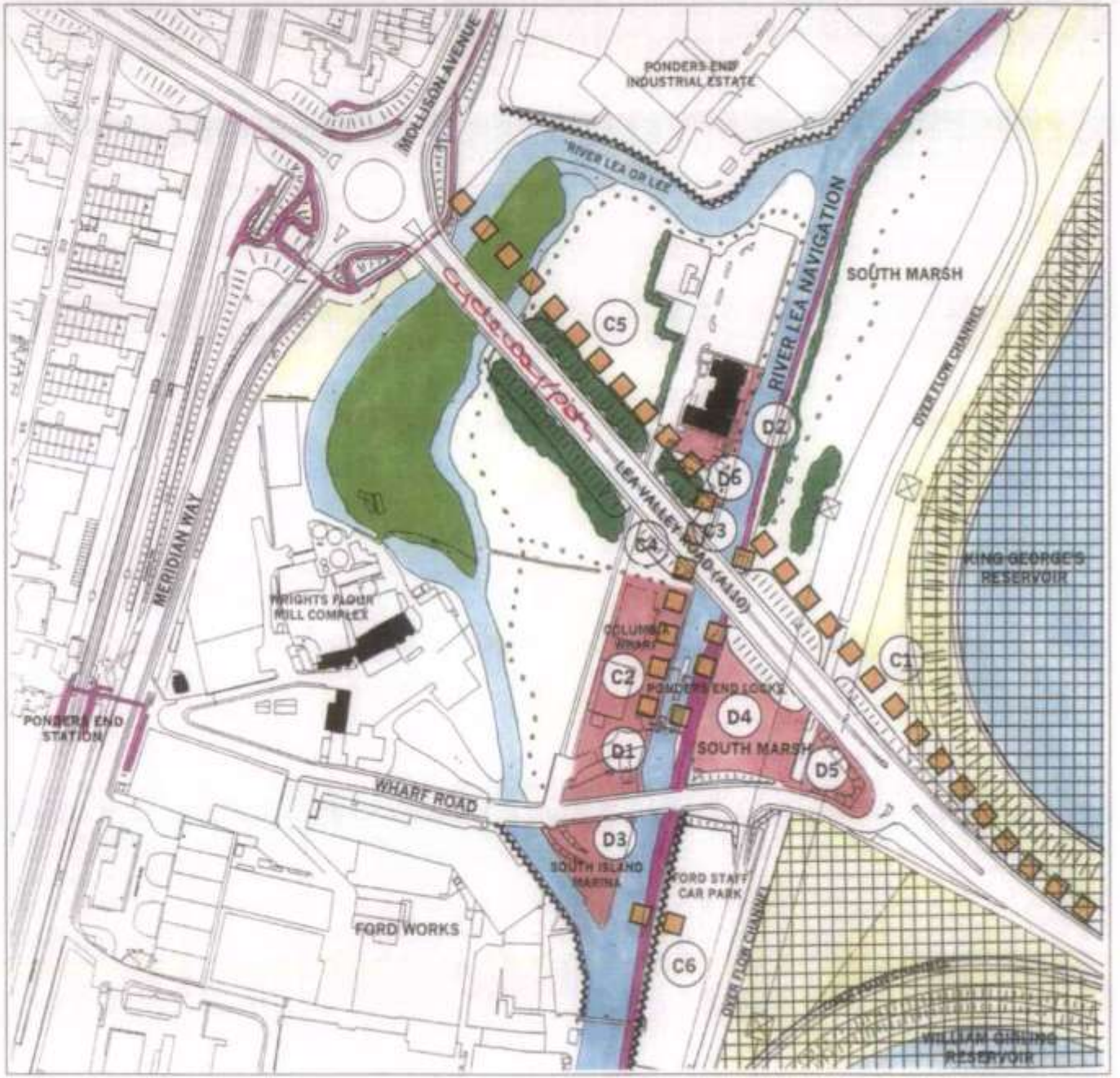
Other techniques which have been used in the past by artists to change their environment include mowing shapes and lines into an areas; changing the nature of the soil, i.e. the depth of the growing medium or the chemical makeup; trampling areas or lines – this can be short lived but very effective when done through dew; covering areas of grass for long enough to create a change in the colour – every one is familiar with this at camping sites. Some of the same methods might be used on the reservoir embankment. Other art works could either be short term enough not to impact on the monitoring or not interrupt views, for example the woodland sculptures illustrated. The embankments could provide an excellent gallery for items created from the coppice woodland areas suggested for other parts of the corridor (see South Marsh Case Study).

The existing maintenance regime relies on sheep to keep the grass to a certain level rather than mowing it. Changes in the length of time an area is grazed, the type of animal or the number of animals would have an impact on the length of the grass and therefore it's visual impact. This could be harnessed, allowing the contrast between areas to create controlled patterns along the length of the embankments. This could be done by dividing the embankments into areas with different grazing patterns using a simple re-locatable form of fencing which could be easily moved by hand, and would be in small enough sections to allow the planned shapes to be formed on the embankment.

While random forms and effects might obscure signs of potential structural instability in the embankment, formal more linear shapes and patterns could make any weaknesses in the stability more apparent through changes in their formal shape and therefore aid the monitoring process.

- Leisure related development opportunities
- Proposed cycle and pedestrian route
- Informal pedestrian routes
- Publicly accessible ecological area
- Publicly inaccessible ecological area
- Areas retained for grazing
- Boundary Improvement
- Screen planting
- Existing non-vehicle routes
- SSSI
- Listed Structure

(D) Development opportunities
(C) Cycle route opportunities
(E) Ecological opportunities



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* G.R Wright & Sons Ltd - Meridian Business Park.

concerns regarding too much emphasis on reducing grazing to encourage vegetation to develop (E1-E4). Surrounding areas need to be kept well grazed to keep wildlife (especially rodents) down to a minimum.

The company has a grazing agreement with Thames Water on a piece of land marked 'publicly inaccessible' on the study map.

Also - concerns re: noxious Leave facilities on business site - 'unstable cattle'

D1 Re-development of existing light industrial BW owned site for leisure based use ensuring a high quality of design to help support Ponders End Lock as a focal point for the area. Scheme for hotel on site approved (see Columbia Wharf case study).

View from Lea Valley Road.

D2 Development of visitor moorings along Navigation Inn frontage as part of proposed walkway under Lea Valley Road, (see Navigation Inn case study).

View from towing path of road embankment and Navigation Inn.

D3 Possible development on neighbouring BW owned site of improved boater facilities to replace existing facilities at Columbia Wharf. Facilities to form part of existing boatyard business. Access for visitors under Wharf Road bridge.

View towards Wharf Road bridge.

D4 Opportunity for high quality development of Thames Water owned land for leisure based use, suitable for its green belt location (see Columbia Wharf case study). Idea would first need to be adopted as part of Lee Valley Park Development Plan.

View from Lea Valley Road to waterside.

D5 Opportunity for development of Council owned land in connection with D4, to improve existing site environment, provide ancillary facilities such as public parking and create an appropriate and visible frontage to Lea Valley Road.

View east along Lea Valley Road.

D6 Alternative location for boater facilities on new walkway as part of development of Columbia Wharf, and relating strongly to new visitor moorings in front of navigation Inn.

View from Lea Valley Road of potential site.

C1 Proposed new off-road cycle route between King George and William Girling Reservoirs, on Thames Water land, linking Chingford to the Navigation (see South Marsh case study).

View along King George reservoir embankment from Chingford end.

C2 New route providing 'access for all' over Navigation via existing improved lock footbridge as part of development of BW's Columbia Wharf site (see Columbia Wharf case study).

View of footbridge and water front from Wharf Road north access ramp.

C3 New route formed under Lea Valley Road on off-side of navigation to link to Navigation Inn to Ponders End Locks and to proposed Enfield to Chingford cycleway (see Navigation Inn case study).

View under Lea Valley Road bridge, looking north.

C4 New route formed through Navigation Inn car park, to provide alternative route between navigation and Enfield to that of busy roads (see Columbia Wharf case study).

View from towing path of railing boundary of site.

C5 New route linking Navigation Inn to existing underpass via the ecologically improved meadow. Two new foot bridges required to create link.

View across Ponders End Meadows to Navigation Inn.

C6 New access point to Ford car park directly from towing path in order to encourage Ford employees to commute by bicycle. Scheme to include cycle store and planting to improve boundary with towing path.

View from Wharf Road looking south over Ford car park.

E1 Enhancement of existing grassland habitat and hedge planting to screen parking. Informal access around meadow via Thames Water emergency route, with interpretation information at car park access point.

View across Ponders End Meadows from Navigation Inn car park.

E2 Improve existing habitats by discontinuing grazing and controlling invasive species; re-profiling water courses to create new wetland; extending woodland and implementing new maintenance regime across whole meadow area.

View along road to Navigation Inn.

E3 Minimise access and reduce grazing pressure to allow vegetation to develop. Provide information regarding Ponders End Meadows at under pass. Consider removing geese or using as education resource.

View of meadows and underpass.

E4 River banks re-profiled and actively managed, with grazing excluded to encourage more varied habitat, thereby widening range of species in area. Opportunity for establishing endangered Black Poplar in area.

View of river and Wrights Flour Mill.

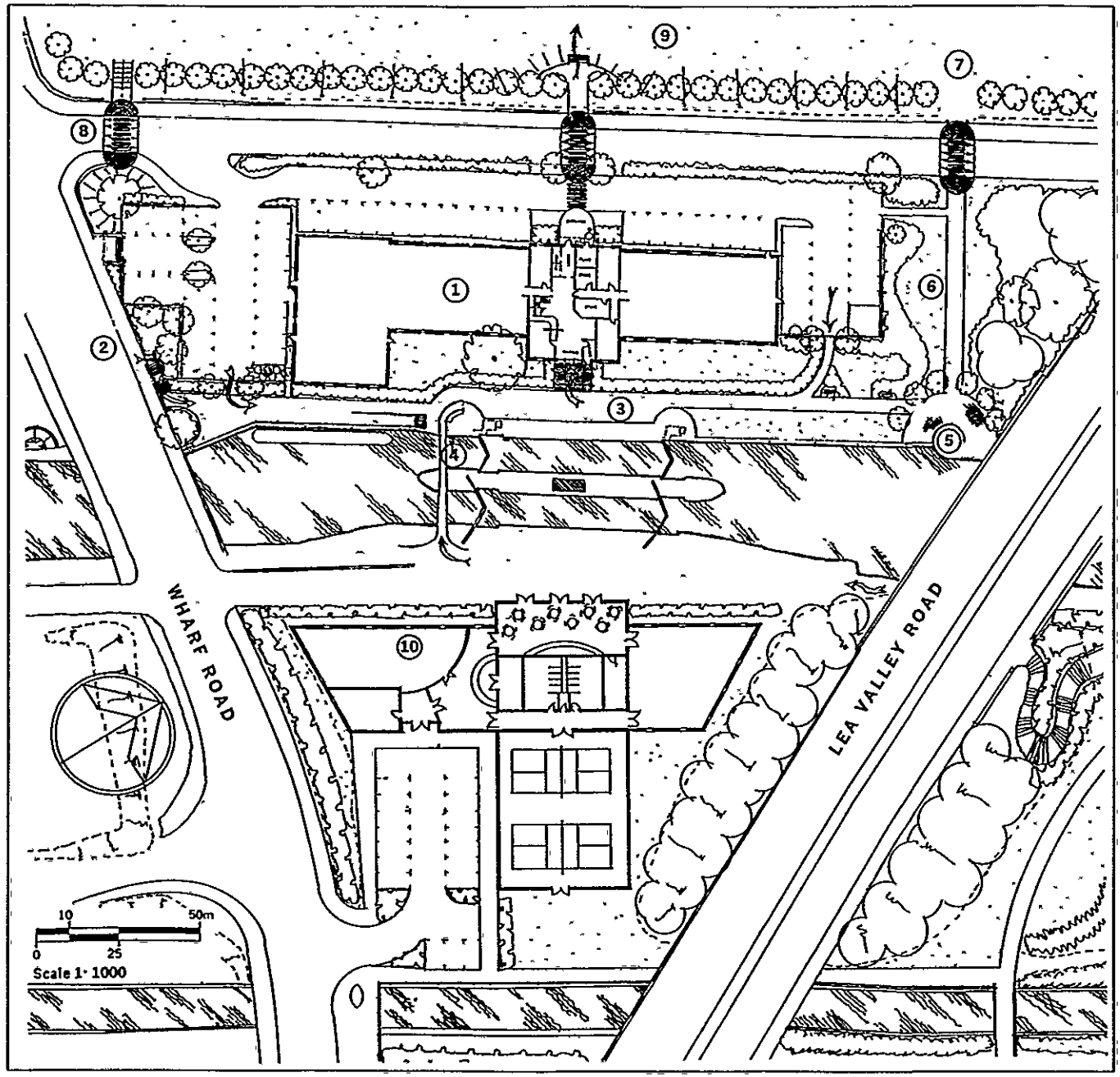
E5 Opportunity for developing area as an educational resource looking at sustainability and commercial issues, as well as an alternative environment to that of the towing path (see South Marsh case study).

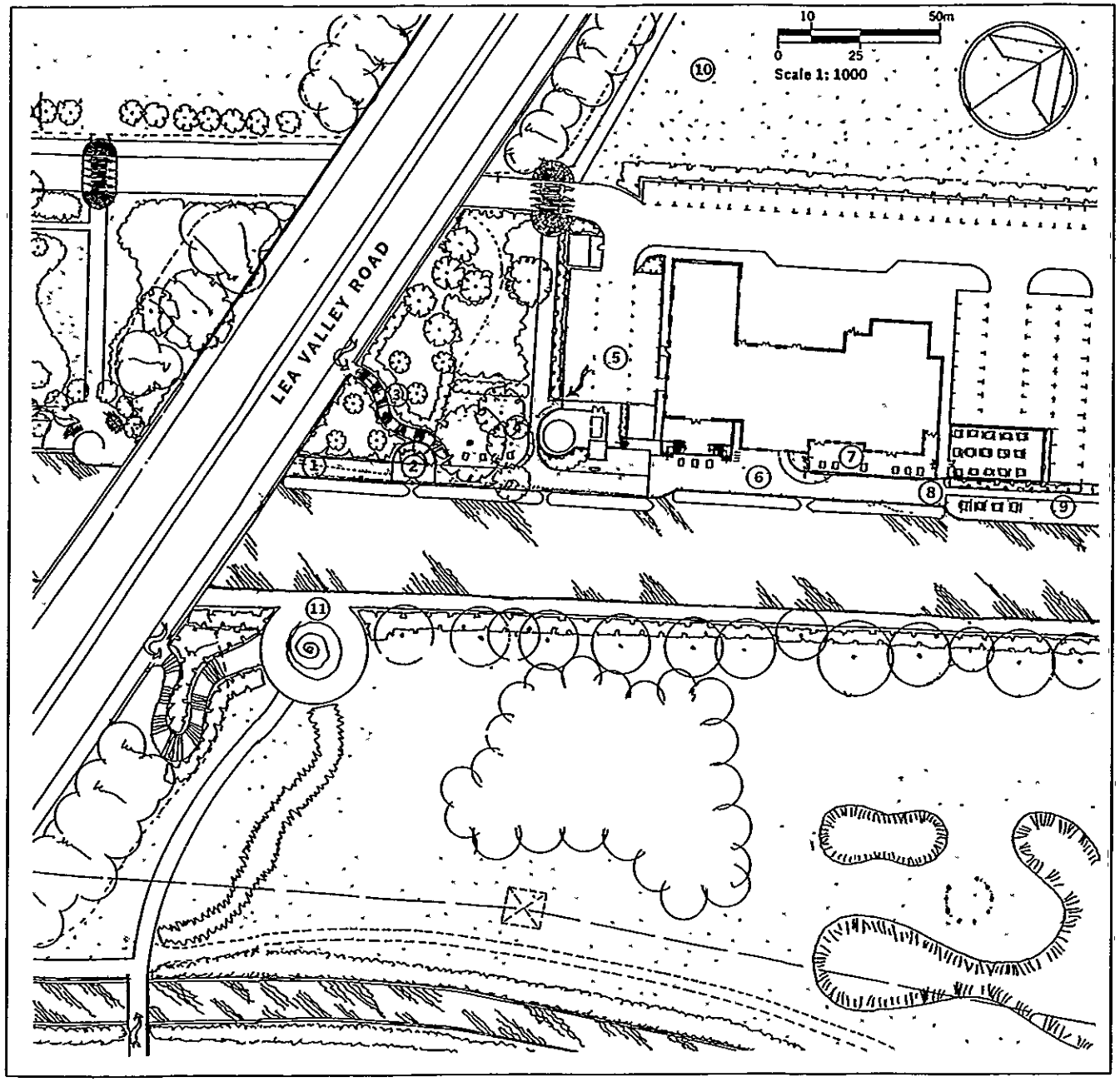
View of South Marsh from the north.

E6 Grazing regime retained on reservoir embankments. No public access for safety and security reasons (see Reservoir Embankment case study).

View of King George reservoir embankment from Lea Valley Road.

1. Columbia Wharf re-developed with a leisure use allowing public access to both sides of the lock. The illustrated scheme has planning permission and is for a hotel which is linked to the neighbouring Navigation Inn. Building positioned to provide strong relationship with lock side, and include waterside entrance, internal communal areas overlooking the water and external landscaped terraces. Waterside elevation extended at either end as walled garden to enclose lock area and screen parking.
2. Improvements to Wharf Road to include new steps to lock side, boundary enhancements, signage, planting and access under Wharf Road to new boater facilities if re-located to neighbouring site.
3 Existing lock side area improved and extended, including new copings and surfacing to provide safe combination of lock side working area, pedestrian and cycle route. Landscaping and formal seating area created relating to the new building and waterside.
4. Existing lock footbridge widened and steps replaced by short curved ramp, incorporating sheltered seat to allow 'access for all' and provide an alternative cycle route to that proposed, linking the towing path and the Navigation Inn.
5 Landmark feature incorporating curved railing to ensure safety for cyclists and others passing to and from under Lea Valley Road.
6 Wildflower meadow, shrub and tree planting to form attractive backdrop and route around the hotel
7. Access point onto the water meadow for leisure and educational purposes. Low key interpretative signs provided.
8. Access road and junction improved, with avenue of alders defining edge of water meadow. Improved hedge on east side of road gives sense of enclosure. Pedestrian crossing points across the access road slow traffic and link the hotel to the meadows Ecological interpretation panels at key access points.
9. Existing urban fringe pasture over grazed at present. Area to be enhanced by controlled management regime including planting of woodland area; coppicing of scrub; regrading of river banks and ditch and creation of shallow pond to provide habitat for wide range of birds and wintering amphibians. Informal route maintained through meadow areas by simple mown path.
10 Development opportunity for leisure related building to front lock side, emphasising Ponders End Locks as focal point for public activity, and allowing existing site to make more positive contribution to navigation than it can at present, given its difficult location between two high level roads. Scheme illustrated shows private or community fitness centre, with changing facilities, gyms, bar overlooking lock, and small sports hall. Externally there is access to a lawn for outdoor classes, to the proposed South Marsh Ecology Area; and to the towing path and cycleways for external pursuits such as jogging. The building could incorporate facilities for a water related activity such as canoeing.





1. Existing ledge widened to 3 m to form new walkway under bridge, and new hard edge to Navigation Inn for visitor mooring. Possible mooring under bridge as the width of the navigation not constricted. Some regrading and replanting necessary on embankment to help visually screen noisy road from waterside
2. Alternative location for boater facilities Sanitary station shown forms curved retaining structure to embankment and steps, and includes refuse store, Elsan disposal point, a toilet and shower
3. New lit stepped access leading to waterfront from Lea Valley Road. "Access for all" south via improved lock bridge crossing, or north via new route across meadow to roundabout subway.
4. Level access to parking area and main pub entrance created next to existing willows New pedestrian route formed through existing under used parking area to provide link via roundabout to Enfield Car parking screened by beech hedge New brick compound formed around sewage treatment plant and extended to incorporate skip area. New public seat provided on water front and attractive directional signage for visitors provided
5. Car parking rearranged to facilitate vehicular circulation, and improve screening of unattractive sub-station from the road. Existing stepped access from car park widened and enhanced to form attractive route to waterside.
6. Improvements to water's edge, including mooring rings for visitors. Waterside terrace created for use as "beer garden", by removing existing gate, fence and resurfacing subject to discussions with pub owners Waterfront area relaid with stone setts, to match existing
7. New entrance with draught lobby formed at lower terrace to allow year round access by customers from the waterside. Pub sign provided, and curved pattern incorporated into paving to draw attention to existing steps down to lower terrace
8. New access steps formed from lower terrace to link family area directly to the pub Existing access to waterside closed to restrict non supervised access to waters edge by children
9. Gravel path formed between car park hedge and managed aquatic margin, to provide safer alternative route to waterside pub entrance than across parking area Path links into circular ecology route round Ponders End Meadows and via lock bridge to the proposed new South Marsh Ecology Area.
10. Improvements to ecological area carried out to enhance grassland status. Hedge planted along car park boundary to screen cars and act as intermediate zone between formal car park and ecological area New pedestrian crossing point created next to existing Thames Water emergency access with all weather path to existing pedestrian subway, including new footbridges over the two water courses Existing access route around the perimeter used for informal recreation by visitors
11. New focal point formed on towing path highlighting the access point for a proposed off-road Enfield to Chingford cycle route. Steps up to Lea Valley Road provide an alternative route to the Navigation Inn to that of the lock bridge crossing Access into proposed new South Marsh Ecological Park

LVRPA - still have concerns about certain elements of the proposal - look forward to comments 19/7/99

Ecological Educational Facility Centre

The proposals in this case study need to be viewed in the context of the whole of Ponders End's waterfront area, and its location within the green belt. Access and facilities for visiting parties to South Marsh would be incorporated within any built development which was allowed on the neighbouring site to the south; ecological improvements to the Ponders End Meadow Areas on the inlet side of the navigation would compliment the South Marsh area, and additions and improvements to the pedestrian access arrangements in the vicinity would help to further focus attention on the site.

The location adjacent to the towing path and close to Lea Valley Road and to the Navigation Inn make it potentially accessible to the public. If the site is made publicly accessible Thames Water would need to be happy that all safety issues were addressed.

The South Marsh area could either be for limited access by special groups or for open public access. A route could be created through it, as an alternative to the towing path, to provide a circular route forming an activity and destination point to draw visitors across from the pub.

The site is owned by Thames Water, and their business needs and operational requirements would need to be taken into account in any future changes to the area, for example access to the existing bore hole on the site.

The extent of the proposals, funding for establishment and management, and responsibility for long term management would all need to be determined before proceeding.

Thames Water have high lighted this as a potential site for future gravel extraction work. This issue would need to be resolved before any new use for the site could be approved. However, the scheme could form the basis for a restoration and after-use plan, if the gravel extraction work were to take place.

The aim of the proposals should be to provide a diversity of appropriate habitats while satisfying as wide a range of educational needs as possible.

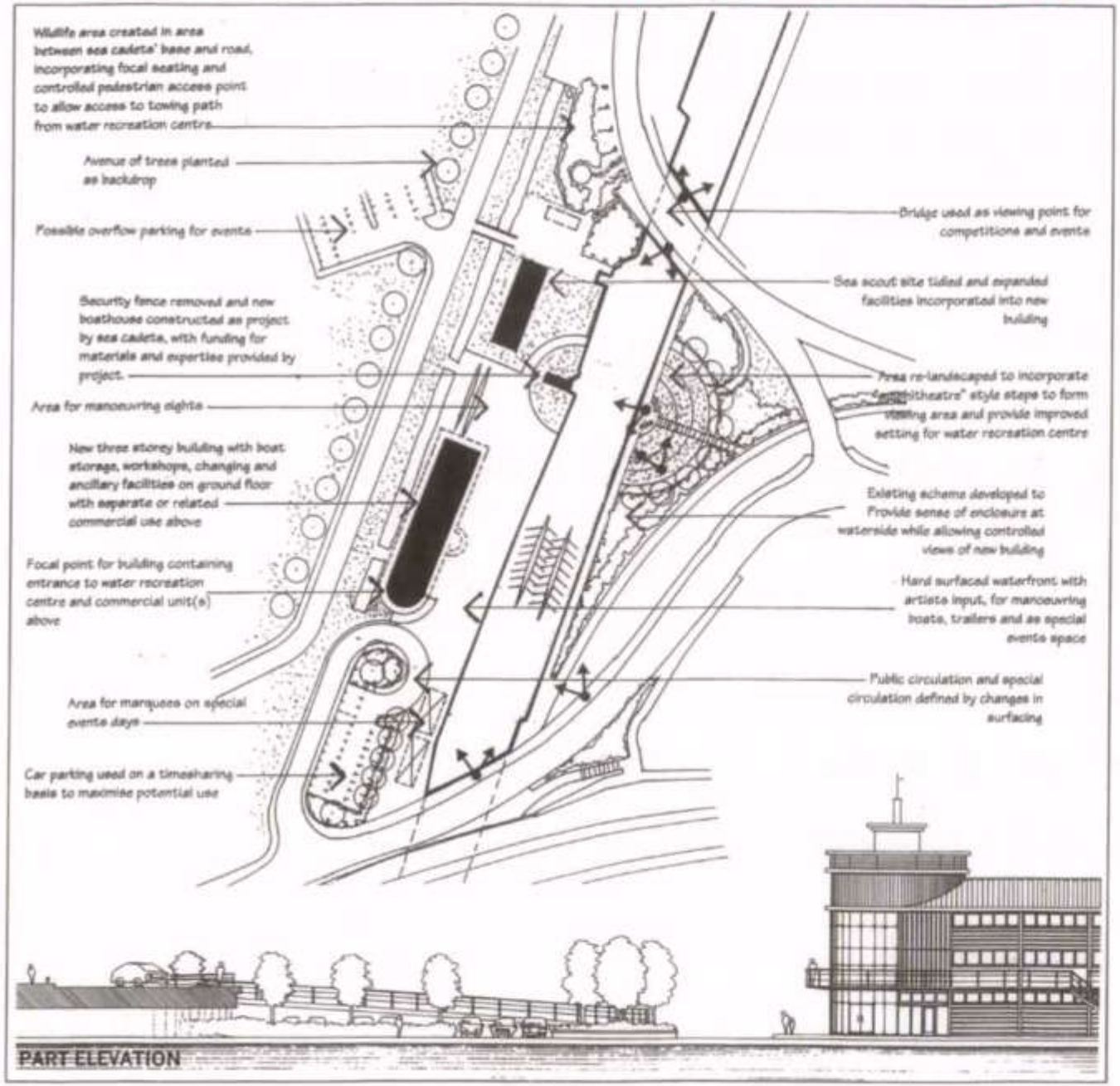
- Control of present grazing regime to allow the development of existing habitats.
- Re-excavation of an area to reveal the original relic valley flood plain and its management to restore the earlier habitat.
- Improvements to existing towing path hedge.
- Creation of small a area of coppice wood, to provide wood for creative educational purposes or as part of a wider commercial venture in the Lee Valley Park.
- Scrapes formed or developed further to provide damp areas.

All ideas would need to take into account the Biodiversity Action Plan for the Lee Valley Regional Park and be assessed following a detailed species, soil and topological survey of the existing site.

Interpretation points
Pedestrian links
Viewing points
0
50
20
Industrial Buildings
Self set woodland at mouth of flood channel to be retained and managed, subject to channel being structurally sound
Extent of woodland limited by need to avoid power lines and interference with flood channel and reservoir embankment
Hillock formed from removal of material from other parts of site. Viewing point with natural sculpture formed periodically as education experience
Variety of different locally indigenous hedge types used to gap up hedge along towing path, for use as educational resource
Areas of relic valley floor uncovered and managed to restore areas of original habitat
Consider re-profiling existing flood channel to form planted ledges, to soften visual impact and increase habitat diversity
Copical areas with a variety of types including hazel and willow, showing different stages of maturity
Broad fringe of native marginal and grassland species developed to overhang flood channel
Navigation Inn
System of scrapes created to form low lying damp area
Managed native woodland formed with tall species tree along west side to screen views of pylons from towing path and Navigation Inn
Thames Water reservoir embankments grazed, as existing
Acid loving or other appropriate habitats developed under pylon
LEA VALLEY ROAD
Willow weave wall created as screen to cycle path to form renewable land-art feature visible from main road
Woodland planting on both highway embankments to screen road and create contrast to open aspect crossing navigation
Potential new off-road cycleway on Thames Water land linking Chingford to the towing path, and a safe attractive alternative to the road
Square boundary for reservoir area designed as art work from standard components with views to grazed reservoir embankments
Potential link to Ponders End Meadows upgraded to allow "Access for All", as part of redevelopment of Columbia Wharf
Pedestrian link under Lea Valley Road formed to link lockside site and South Marsh ecological area

G.R Wright Ltd Sec's Ltd - have concerns re: improved access as set out in CS - due to loss of natural barrier keeping people away from contaminated site. (Security)

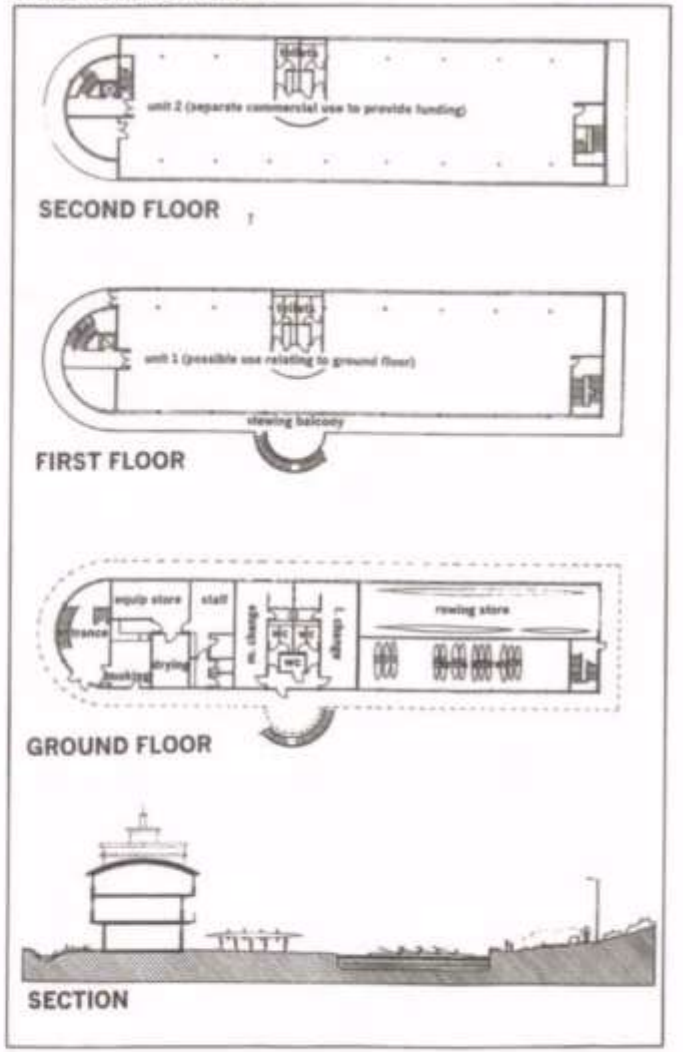
LVRPA - previous comments still apply - queries as to the basis of research for this type of facility ie. consultation with Sport Council & Local Sea Scout Group also as a site.


Wildlife area created in area between sea cadets' base and road, incorporating focal seating and controlled pedestrian access point to allow access to towing path from water recreation centre
Avenue of trees planted as backdrop
Possible overflow parking for events
Security fence removed and new boathouse constructed as project by sea cadets, with funding for materials and expertise provided by project.
Area for manoeuvring sights
New three storey building with boat storage, workshops, changing and ancillary facilities on ground floor with separate or related commercial use above
Focal point for building containing entrance to water recreation centre and commercial unit(s) above
Area for marquees on special events days
Car parking used on a timesharing basis to maximise potential use
Bridge used as viewing point for competitions and events
Sea scout site tidied and expanded facilities incorporated into new building
Area re-landscaped to incorporate "amphitheatre" style steps to form seating area and provide improved setting for water recreation centre
Existing scheme developed to Provide sense of enclosure at waterside while allowing controlled views of new building
Hard surfaced waterfront with artists input, for manoeuvring boats, trailers and as special events space
Public circulation and special circulation defined by changes in surfacing

PART ELEVATION

Water Recreation Centre

Existing scrap yard site redeveloped as a Water Recreation Centre for canoeing and rowing The new building would provide water related facilities on the ground floor, with two floors of commercial use above. This would be to provide funding for the proposal and to enable a landmark building to be created next to the North Circular to raise the profile of water sport in the Lee Valley Regional Park. The neighbouring sea cadets would also benefit.



Towing Path Improvements

Ravenside Retail Park forms a gateway for visitors to Enfield Borough Council's area and is the key link for Lee Valley Park, between the green reservoir areas to the north and green areas of Tottenham Marshes to the south.

Present Situation

- Potential conflicts between towing path users and vehicles, with safety issues for towing path users, relating to movement of vehicles along existing access road, compounded by poor definition of towing path
- Access to towing path for workers in area difficult, involving climbing over vehicle safety barrier, along most of length Surfacing and constrictions also make movement along towing path for pedestrians and cyclists awkward.
- Signage creates visual clutter, and lack of co-ordination can confuse drivers, creating a potential safety hazard for vehicles and pedestrians, particularly at the end of Hawley Road.
- No clear definition of boundaries or sense of custodianship, leaving either undefined and poor quality boundary treatments, or no boundary, leading to unkempt and unmanaged areas of presumed communal use.
- No acknowledgement or clear hierarchy of uses and public and private spaces along much of the water front. Lack of co-ordination of uses has led to the inefficient use of the available space

Aim

- Provide safe attractive waterfront for pedestrians, cyclists, fishermen and local workers
- Improve general perception of Ravenside Retail Park for passers-by and for workers in the area

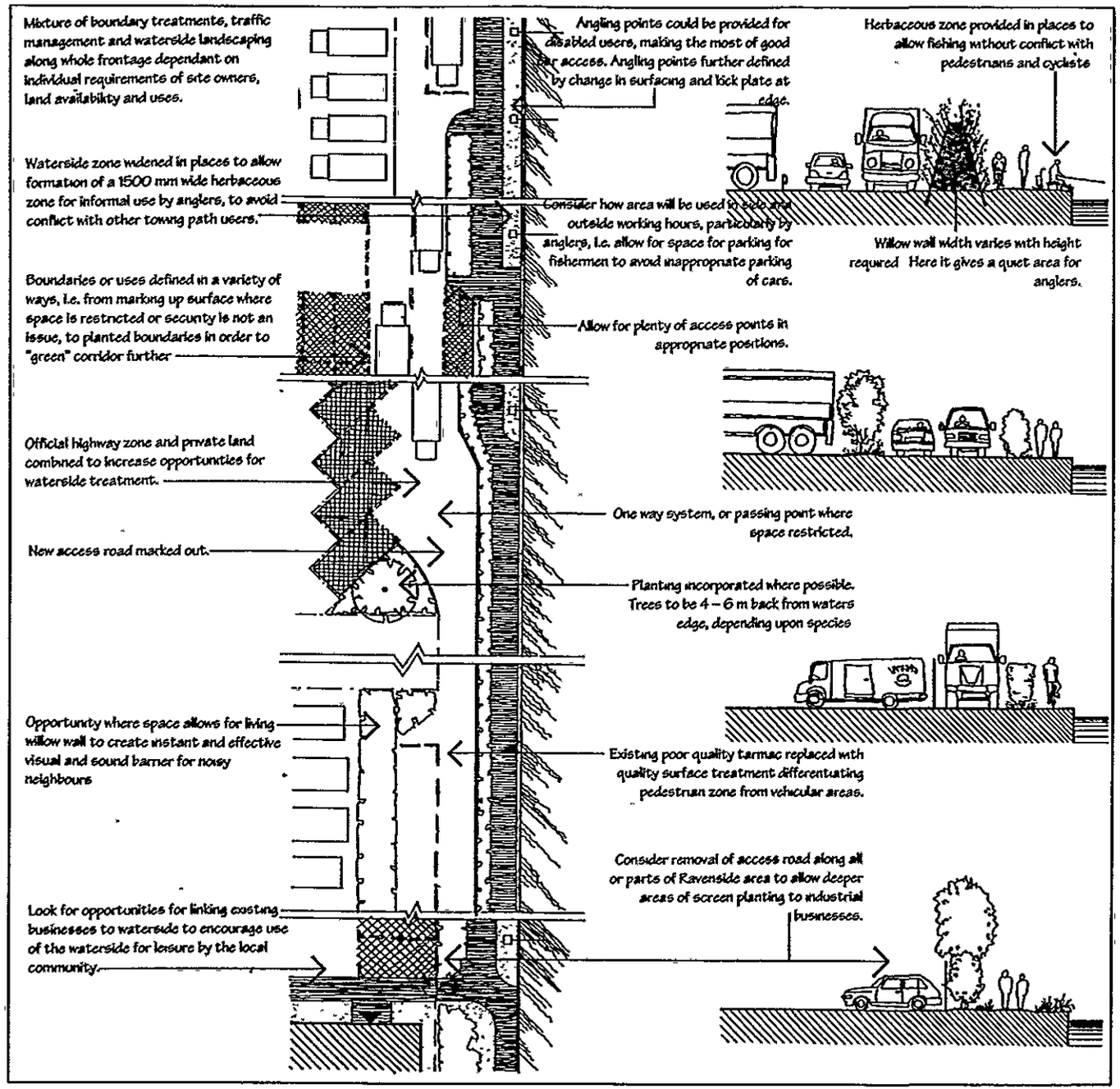
Alternative Solutions

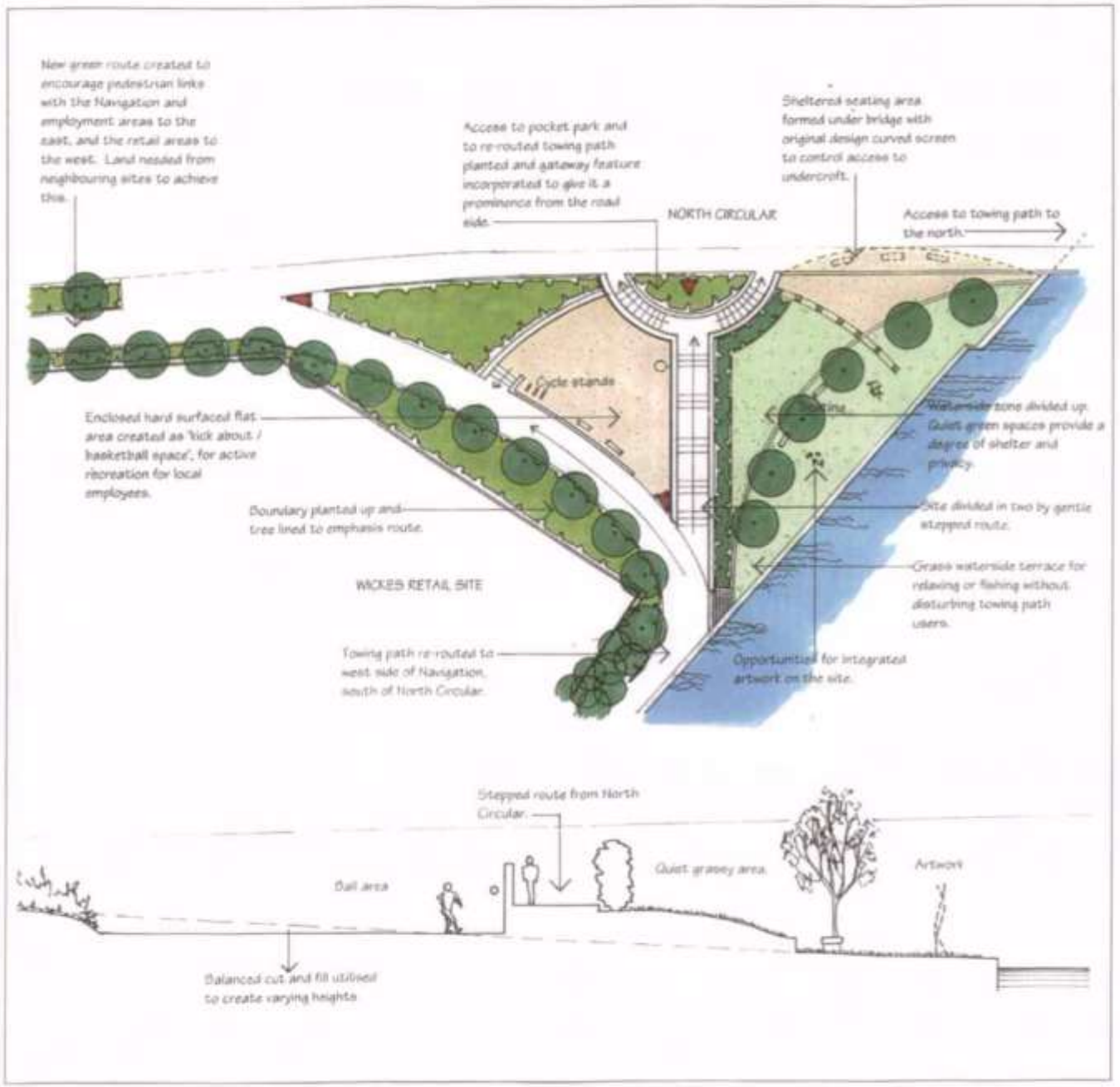
A Introduction of traffic control methods and better utilisation of under used areas, to release more land for improvements to waterside zone. Traffic controls to include directional prioritising; pinch points; passing places and defined stopping areas, Illustrated to right.

B Introduction of one way system for vehicular access along waterfront

C Introduction of new route within Ravenside Retail Park to replace existing access along waterside south from Hawley Road, and improved signage and traffic management to north of Hawley Road.

D Re-locate towing path to west side of Navigation, to remove conflict between vehicles and pedestrians, and allow connections to retail park to the west.


Mixture of boundary treatments, traffic management and waterside landscaping along whole frontage dependant on individual requirements of site owners, land availability and uses.
Angling points could be provided for disabled users, making the most of good car access. Angling points further defined by change in surfacing and kick plate at edge.
Herbaceous zone provided in places to allow fishing without conflict with pedestrians and cyclists
Waterside zone widened in places to allow formation of a 1500 mm wide herbaceous zone for informal use by anglers, to avoid conflict with other towing path users.
Consider how area will be used in side and outside working hours, particularly by anglers, i.e. allow for space for parking for fishermen to avoid inappropriate parking of cars.
Willow wall width varies with height required Here it gives a quiet area for anglers.
Boundaries or uses defined in a variety of ways, i.e. from marking up surface where space is restricted or security is not an issue, to planted boundaries in order to "green" corridor further
Allow for plenty of access points in appropriate positions.
Official highway zone and private land combined to increase opportunities for waterside treatment.
One way system, or passing point where space restricted.
New access road marked out.
Planting incorporated where possible. Trees to be 4 – 6 m back from waters edge, depending upon species
Opportunity where space allows for living willow wall to create instant and effective visual and sound barrier for noisy neighbours
Existing poor quality tarmac replaced with quality surface treatment differentiating pedestrian zone from vehicular areas.
Consider removal of access road along all or parts of Ravenside area to allow deeper areas of screen planting to industrial businesses.
Look for opportunities for linking existing businesses to waterside to encourage use of the waterside for leisure by the local community.


New green route created to encourage pedestrian links with the Navigation and employment areas to the east, and the retail areas to the west. Land needed from neighbouring sites to achieve this.
Access to pocket park and to re-routed towing path planted and gateway feature incorporated to give it a prominence from the road side.
NORTH CIRCULAR
Sheltered seating area formed under bridge with original design curved screen to control access to undercroft.
Access to towing path to the north
Cycle stands
Enclosed hard surfaced flat area created as 'kick about / basketball space', for active recreation for local employees.
Boundary planted up and tree lined to emphasis route.
WICKES RETAIL SITE
Towing path re-routed to west side of Navigation, south of North Circular.
Waterside zone divided up. Quiet green spaces provide a degree of shelter and privacy.
Site divided in two by gentle stepped route.
Grass waterside terrace for relaxing or fishing without disturbing towing path users.
Opportunities for integrated artwork on the site.
Stepped route from North Circular.
Ball area
Quiet grassy area
Artwork
Balanced cut and fill utilised to create varying heights

As a solution to the problems with the existing towing path through Ravenside Retail Park, the towing path might re-locate to the west side of the navigation.

This would provide a safe and attractive green edged towing path environment for users, and avoid possible conflict with vehicles and fishermen.

Parts of the existing towing path could be replaced with a hedge to soften and screen the industrial uses behind.

Access to the new western route would be via the south side of the North Circular, and back across on the footbridge close to Leeside Road.

Most of the required length has an existing landscape strip, into which a path could be inserted at the waters edge. At the southern end, the future Leeside Road development site could incorporate a towing path.

Where sites on the west side are publicly accessible a new access to the waterside might be relevant.

In order to encourage people to think of the navigation as a place of recreation it is suggested the triangle of land next to the North Circular is turned into a pocket park, forming a stopping point on the waterside route and a lunch time spot for local people to relax. The pocket park can work either as a destination in it's own right, or as a rest place on the way to Tesco, for example.

The park would need to have a strong identity, easily draw people through it, and be discernible as the access to the towing path.

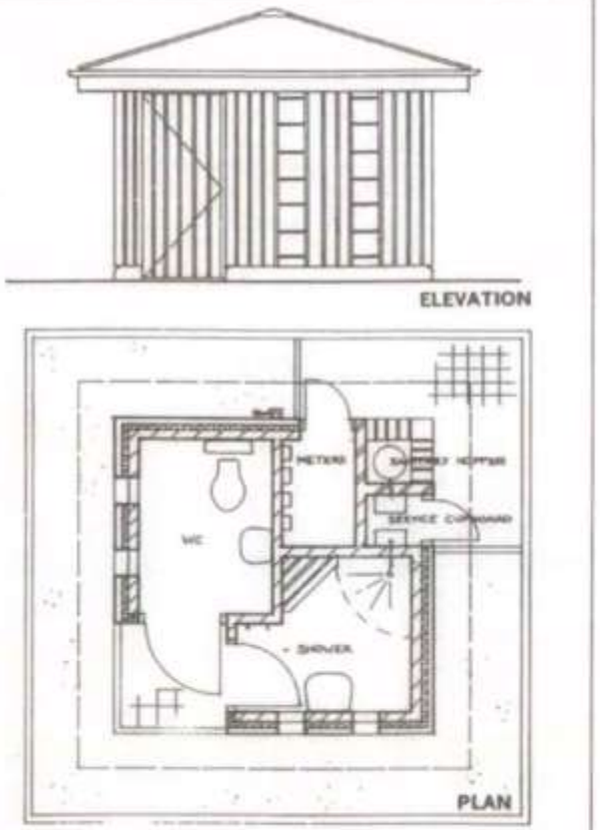
View of existing towing path and vegetated off-side, looking south

LVRPA - See no real justification for long term moorings at this particular site due to proximity to boat facilities at Stonebridge Lock. Additionally be for new moorings could be considered more usefully 'Shelly-beach' on east bank of River Lee Navigation South from Stonebridge Lock should be removed.

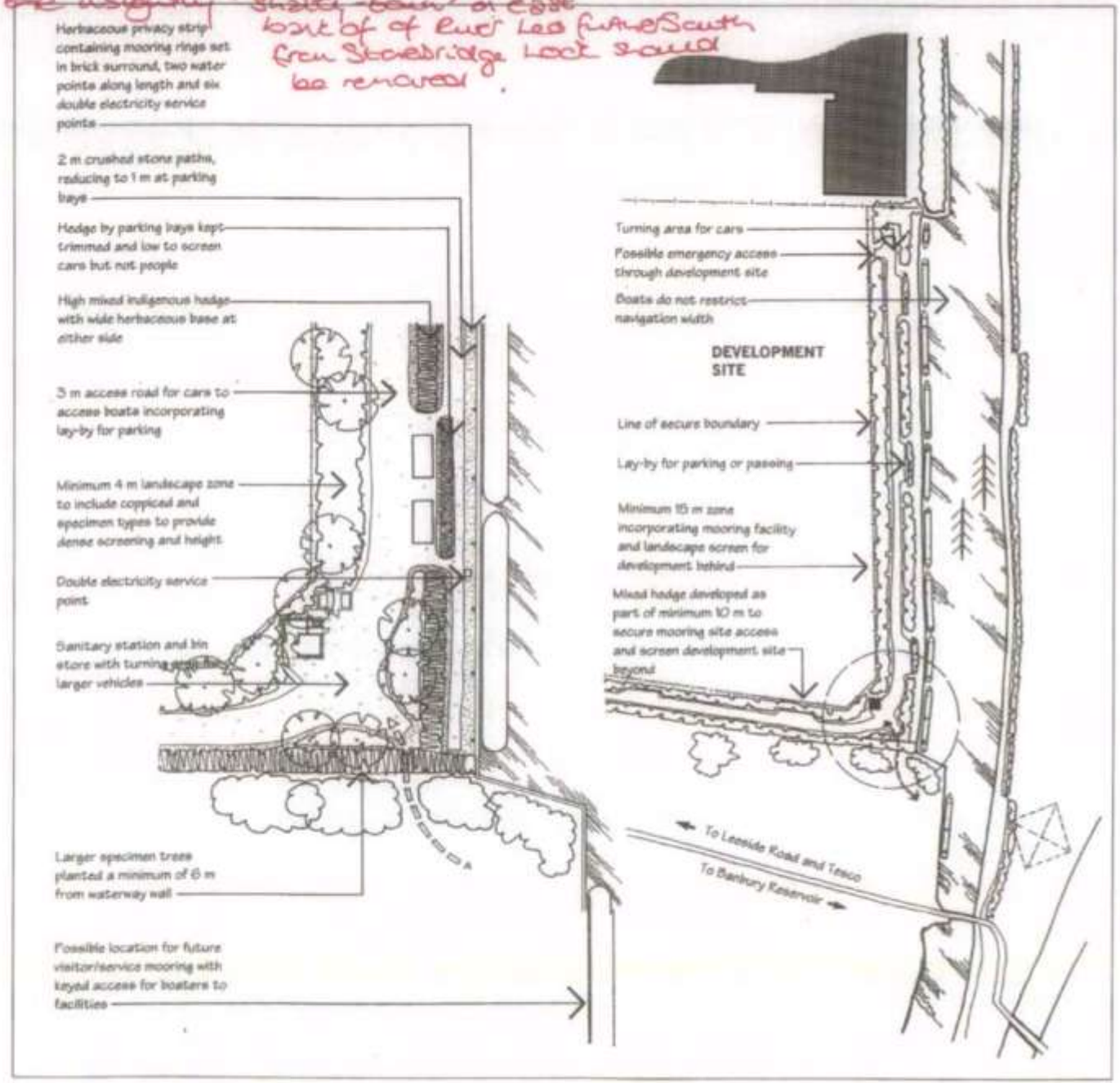
Long Term Moorings in Enfield

Redevelopment of Deery Construction site, at the end of Leeside Road to include a landscaped waterside zone incorporating private long term moorings for boat owners in the area, or for those from further afield, based in Lee Valley Park for 3-6 months.

The off-side location gives good security to the long term moorings, while it's position next to the public open space of Tottenham Marshes allows for the development of visitor moorings between the end of the site and the footbridge. This location allows visiting boaters to take advantage of the footpath link to the nearby Tesco store for boaters to obtain provisions, and to gain access to the proposed sanitary station.



SANITARY STATION


Herbaceous privacy strip containing mooring rings set in brick surround, two water points along length and six double electricity service points
2 m crushed stone paths, reducing to 1 m at parking bays
Hedge by parking bays kept trimmed and low to screen cars but not people
High mixed indigenous hedge with wide herbaceous base at either side
5 m access road for cars to access boats incorporating lay-by for parking
Minimum 4 m landscape zone to include coppiced and specimen types to provide dense screening and height
Double electricity service point
Sanitary station and bin store with turning area for larger vehicles
Larger specimen trees planted a minimum of 6 m from waterway wall
Possible location for future visitor/service mooring with keypad access for boaters to facilities
Turning area for cars
Possible emergency access through development site
Boats do not restrict navigation width
DEVELOPMENT SITE
Line of secure boundary
Lay-by for parking or passing
Minimum 15 m zone incorporating mooring facility and landscape screen for development behind
Mixed hedge developed as part of minimum 10 m to secure mooring site access and screen development site beyond
To Leeside Road and Tesco
To Banbury Reservoir

8.1 Strategic and Site Specific Action Plans

The package of measures the partner organisations agree to pursue to achieve the aims of the study is the key to making things happen. The action plan presented in the following pages has been derived from the strategic and topic based issues reviewed in chapter 4 and the recommendations identified in the Lee Navigation, London Borough of Enfield, Landscape Evaluation Document (Appendix B). The measures outlined in the action plan also take account of other initiatives already operating in Enfield and proposed by the partner organisations.

The action plans have attempted to:

- outline existing and planned initiatives to be undertaken by partner bodies which are consistent with the study,
- identify external funding sources and other bodies which could potentially participate in new initiatives;
- indicate other action required to achieve strategy objectives.

The extent to which this strategy engenders visible action "on the ground", and significant change and improvement within Enfield's waterway corridor will provide a test of its success

This strategy should be progressed through

- Unitary Development Plan review process,
- development control system;
- direct action by the partner organisations,
- London's Waterway Partnership programmes;
- demonstration and pilot projects by partner organisations to encourage action by others.

Action Plan Key

BTCV	British Trust for Conservation Volunteers
BW	British Waterways
EA	Environment Agency
HA	Highways Agency
LAB	London Arts Board
LBE	London Borough of Enfield
LBWF	London Borough of Waltham Forest
LVRPA	Lee Valley Regional Park Authority
LWP	London's Waterway Partnership
TW	Thames Water

8.2 Strategic Action Plan

Delivery Mechanisms	Recommendations	Lead Partner	Partners/Consultation
Unitary Development Plan	London Borough of Enfield give consideration to the following as part of the Unitary Development Plan review: ✦ designating the waterway corridor as either an "Action Area" or series of "Waterways Special Policy Areas" the within the unitary development plan to support the priority investment areas and to emphasise the tourism and environmental led regeneration potential of the whole corridor; ✦ incorporating the following key themes for integrating environmental considerations into development policies and proposals in order to ensure that the redevelopment of waterside industrial sites and tourism led regeneration initiatives are successfully achieved without adverse effects on the environmental quality of the navigation and the Lee Valley Regional Park: ✦ **emphasis on redevelopment, reuse of derelict or under-used land**, should be given priority. It is considered that this could be successfully achieved without adverse effects on the environmental quality of the corridor and the Lee Valley Regional Park. The Unitary Development Plan should contain policies that will ensure that the type of development that, in every location, is appropriate in its siting, scale, form and character, that makes a positive contribution to its surroundings, and that takes full account of landscape character, wildlife habitats and the protection of archaeological or historical interest; ✦ **policies of control and mitigation** to protect and maintain aspects such as the waterway character and fabric, views to and from the waterway and other key historical features within the corridor; ✦ **environmentally sensitive tourism and recreation** - policies to promote environmental benefits through development, public enjoyment and understanding of environmental and heritage resources and to facilitate access to them; ✦ **the utilisation of the waterways and towing path as a sustainable mode of transport** - policies designed to promote the use of towing path for walking and cycling as well as to promote the use of navigation for waterborne freight and for water recreation purposes; ✦ **integrated land and water resource management** – policies to control surface water discharge made to navigation from new waterside developments as means of controlling surface water run-off and ensuring water quality.	LBE	LVRPA; BW; EA
Design Guidelines	London Borough of Enfield to give consideration to adoption of the waterside design and development guidelines contained in chapter 6 as Supplementary Planning Guidance. These guidelines should assist in the negotiation and determination of planning applications. London's Waterway Partnership to give consideration to use the adoption of the waterside design and development guidelines the guidelines for appropriate boundary treatments, external spaces and soft landscape works contained in Chapter 6 in the assessment of schemes eligible for SRB funding under the boundary campaign initiative.	LBE LWP	LVRPA *
Local Implementation Plans	London Borough of Enfield to explore with British Waterways the following opportunities as part of the Local Implementation Plan formulation process: ✦ integrate waterways with other forms of transport; ✦ use waterways for freight transfer and to examine how their potential could be maximised with financial incentives, planning encouragement and strategies that will encourage transport of goods between the transport modes; ✦ promote access to and greater use of inland waterways; ✦ ensure effective integration with leisure, recreation, tourism and conservation strategies. London Borough of Enfield and British Waterways to encourage local operators to use waterways for freight transfer, in particular for the transportation of waste.	LBE;	BW; LVRPA

* LVRPA need a role in producing design guidelines for the Park, covering the waterways.

Delivery Mechanisms	Recommendations	Lead Partner	Partners/Consultation
Water Management Strategy	Thames Water give consideration to the preparation of a water management strategy for King George's Reservoir and William Girling Reservoir to evaluate the recreational potential and the nature conservation value of these waterbodies.	TW	LVRPA; LBE; LBWF
Development Briefs	London Borough of Enfield and Thames Water to give consideration to jointly preparing the planning briefs for waterside sites within Thames Water's ownership for leisure and recreation purposes in consultation with Lee Valley Regional Park Authority. London Borough of Enfield to continue to prepare future planning briefs for waterside sites on the offside in consultation with British Waterways, Lee Valley Regional Park Authority and the Environment Agency.	LBE; TW LBE	LVRPA LVRPA; BW
Planning Conditions	London Borough of Enfield to secure appropriate boundary and edge treatment and on-site transport measures and facilities as part of any new waterside development through conditions	LBE	LVRPA; BW; EA
Planning Agreements	London Borough of Enfield to make use of planning obligations or agreements to improve the waterside environment, eg secure habitat enhancement and creation as well as to encourage use of navigation for waterborne freight and water recreation, as well as use of towing path for walking and cycling.	LBE	LVRPA; BW, EA
Freight Wharfage Audit	British Waterways to give consideration to commissioning a Freight Wharfage Audit of existing and potential wharves along the Lee Navigation	BW	LBE
Freight Strategy	British Waterways to give consideration to commissioning the production of a Freight Strategy for the Lee Navigation in consultation with the London Boroughs.	BW; London Boroughs	
Navigational Strategy	British Waterways to give consideration to commissioning the production of a Navigational Strategy for the Lee Navigation which identifies the potential waterborne freight and water recreation opportunities as well as to address the potential conflicts between them	BW	London Boroughs; LVRPA
Marketing Strategy	The Partnership give consideration to commissioning a marketing strategy to develop the key waterway themes and explore further the ideas listed on page 52.	BW, LBE; LVRPA; EA; TW	Regional/Local Tourist Board
Promotional Strategy	The Partnership gives consideration to commissioning a promotional strategy to explore ideas and opportunities	BW; LBE; LVRPA; EA, TW	Regional/Local Tourist Board
Public Art Strategy	The Partnership to give consideration to the production of a public art strategy for the River Lee Navigation corridor in conjunction with neighbouring boroughs and agencies. This strategy could investigate in detail the opportunities for the introduction of the following public art elements within the Lee Navigation corridor. ✦ information, interpretation and signage; ✦ waterside furniture, lighting and other manufactured features, ✦ art associated with buildings, bridges, other structures and ground surfaces ✦ fencing and boundaries; ✦ earthworks and landscape works; ✦ gateways and entrances, ✦ functional places and spaces; ✦ landmark features, ✦ temporary programmes floating work and interventions	LBE; LVRPA; TW; BW; LWP	EA
SRB Boundary Campaign Initiative	The SRB programme recognises the need to improve the quality of the riverside environment, particularly riverside industrial premises. This report recommends that eligibility for SRB funding part of the boundary campaign initiative should be subject to the adoption of the guidelines for appropriate boundary treatments, external spaces and soft landscape works contained in Chapter 6 of this report.	LWP	LBE; BW

8.3 Site Specific Action Plans

The tables which follow are based upon the recommendations listed in the Lee Navigation, London Borough of Enfield, Landscape Evaluation Document (Appendix B). The approximate costs are calculated using a rough measurement of the areas identified and prices quoted by Spon's Landscape and External Works Price Book 1999. It should be noted that these costs do not include additional items associated with the works such as design fees, contract administration, ground investigations, contract preliminaries, contingencies, ongoing maintenance etc. The character areas referred to below are indicated on the landscape overview drawings included on pages 18 - 20 of this report

8.3.1 Recommendations for Environmental Improvements

Area	Recommendations for Environmental Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 1				
✦ Landscape Management	Implement a programme to eradicate Japanese Knotweed along the drainage ditch	LVRPA; LBE; EA	£3000/year	
	Manage Rammey Marsh to improve species and habitat diversity	LVRPA; LBE; BTCV	Ecological survey required	
✦ Public Art	Develop space beneath the motorway bridge as setting for interpretative public art	LVRPA; LBE; LAB; LWP	£15,000	
CHARACTER AREA 2				
✦ Landscape Management	Manage scrub vegetation including pollarding of exiting willows	LVRPA; LBE; BTCV	£750/year	
✦ Built development	Rationalise use and style of control cabins and railings around lockside	LVRPA; LBE; LWP	Further study required	
CHARACTER AREA 3				
✦ Landscape Management	Manage planting strip to rear of towing path to enhance species and habitat diversity	BW	£2000/year	
	Manage planting on offside to retain trees that mitigate view to pylons and electricity poles	LVRPA; LBE	£3000/year	
✦ Face Lift Work	Paint palisade security fencing	LBE, Landowner	£2000	
CHARACTER AREA 4				
✦ Landscape Proposals	Undertake tree and shrub planting on Rammey Marsh to create visual and habitat diversity	LVRPA, LBE	Ecological survey required	
✦ Landscape Management	Manage existing vegetation to enhance species and habitat diversity	LVRPA; LBE	Ecological survey required	

Area	Recommendations for Environmental Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 5				
✦ Landscape Proposals	Establish marginal and aquatic vegetation along navigation to increase ecological value and help reduce the visual impact of the existing piled edge	LVRPA; LBE; EA; BW	£2000	
✦ Landscape Management	Manage existing vegetation along the navigation to help mitigate the visual impact of the piled edge			
	Manage vegetation to retain view to existing Pill Box	LVRPA, LBE; EA; EA	£1500/year	
CHARACTER AREA 6				
✦ Landscape Proposals	Implement comprehensive planting scheme to create gateway to Rammey Marsh	LVRPA; LBE	£3000	
✦ Public Art	Consider use of the road bridge abutments as a location for public art to help deter graffiti artists	LBE, LAB; Community Artists, HA; LWP	£5000	
CHARACTER AREA 7				
✦ Landscape Proposals	Implement screen planting along car park edge to screen new development	LBE; LVRPA; Landowner	£2000	
	Establish marginal and aquatic vegetation to help mitigate the visual impact of the existing piled edge	LBE; LVRPA, BW	£1500	
✦ Landscape Management	Manage vegetation on offside to help mitigate the visual impact of the existing piled edge	LBE; LVRPA; BW	£1000/year	
	Implement differential mowing regimes on the embankment to help perpetuate existing species diversity	LBE; LVRPA	Ecological survey required	
CHARACTER AREA 8				
✦ Landscape Proposals	Underplant existing triangle of woodland to rear of towing path	LBE; LVRPA	£1500	
✦ Landscape Management	Establish marginal and aquatic vegetation to help mitigate the visual impact of the existing piled edge	LBE; LVRPA; EA; BW	£3000	
CHARACTER AREA 9				
✦ Redevelopment	The redevelopment of the British Waterways yard should respect the historic character of the waterway and make a positive contribution to the navigation	LBE, LVRPA; BW; Redwatch	Further study required	
CHARACTER AREA 10				
✦ Landscape Management	Manage vegetation along foot path	LBE, LVRPA; EA	£1500/year	
✦ Face Lift Work	Undertake programme of graffiti removal to upgrade the image of the area	LBE; LMP		
	Paint bridge handrails to match bridge frame	LBE/HA	£2500	

Area	Recommendations for Environmental Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 11				
✦ Landscape Management	Maintain planting to waters edge	LBE; LVRPA	£500/year	
✦ Face Lift Work	Paint security fences black to help reduce their impact	LBE	£2000	
CHARACTER AREA 12				
✦ Landscape Proposals	Establish marginal and aquatic vegetation to towing path side to help mitigate the visual impact of the existing piled edge	LBE; LVRPA; EA	£2000	
CHARACTER AREA 13				
✦ Landscape Proposals	Establish marginal and aquatic vegetation on both sides of the navigation to help mitigate the visual impact of the existing piled edge	LBE; LVRPA; EA; BW	£4000	
✦ Landscape Management	Maintain and manage existing hedgeline	LBE; LVRPA	£1500/year	
CHARACTER AREA 14				
✦ Landscape Proposals	Gap up and underplant vegetation belt on the offside	LBE; LVRPA	£3000	
✦ Landscape Management	Manage adjacent pasture and reservoir embankment for habitat and species diversity	LBE; LVRPA; TW	Ecological study required	
CHARACTER AREA 15				
✦ Landscape Management	Manage aquatic vegetation	LBE; LVRPA; BW	£1000/year	
	Develop comprehensive management plan of reservoir embankments to improve habitat diversity and increase visual interest	LBE; LVRPA; TW	Ecological survey required	
CHARACTER AREA 16				
✦ Landscape Management	Manage waterside vegetation for habitat and species diversity	LBE, LVRPA, EA; BW	£2000/year	
✦ Face Lift Work	Repaint industrial buildings and rationalise storage of cable drums and pallets, if site is not redeveloped	LBE; LVRPA; Landowner/Tenant; LWP	Further study required	
CHARACTER AREA 17				
✦ Landscape Proposals	Encourage the colonisation of aquatic vegetation from Mossops Creek along the offside	LBE; LVRPA; EA; BW	£2000	
✦ Landscape Management	Manage existing planting to mitigate visual impact of the lorry park	LBE; LVRPA; Landowner	£1500/year	
CHARACTER AREA 18				
✦ Landscape Proposals	Establish aquatic vegetation using Bestmann or coir rolls	LBE; LVRPA; EA; BW	£3000	
✦ Development	The development proposals for the Johnson Matthey site should positively address the waterside location	LBE; LVRPA; Landowner/Developer	Further study required	

Area	Recommendations for Environmental Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 19				
✦ Landscape Proposals	Implement tree planting scheme on the offside to help mitigate the visual impact of the adjacent industrial buildings	LBE; LVRPA; Landowner	£6000	
✦ Landscape Management	Encourage colonisation of marginal and aquatic vegetation on the offside	LBE; LVRPA; EA, BW	£2500	
CHARACTER AREA 20				
✦ Landscape Management	Encourage spread of existing marginal and aquatic vegetation along the offside	LBE; LVRPA; EA; BW	£1000	
✦ Viewpoint	Opportunity to create waterside lunch area and viewpoint next to transit shed for industrial estate employees in recognition of the existing impromptu arrangements	LBE, LVRPA, Landowner; LWP	Further study required	
CHARACTER AREA 21				
✦ Landscape Proposals	Encourage colonisation of marginal and aquatic vegetation along the offside	LBE; LVRPA; EA; BW	£1500	
✦ Face Lift Work	Repaint existing barrier to industrial unit access road	LBE	£2500	
CHARACTER AREA 22				
✦ Landscape Proposals	Undertake tree planting around pub car park	LBE, LVRPA; Navigation Inn	£2000	
	Encourage colonisation of vegetation along the River Lee backwaters to enhance ecological value and species diversity	LBE; LVRPA; EA	£2500	
✦ Landscape Management	Reduce height of existing herbaceous vegetation on offside to create opportunity for visitor moorings in association with the Navigation Inn	LBE; LVRPA; Navigation Inn; BW	£500/year	
✦ View point	Opportunity to create viewpoint on existing mound close to children's play area to north of the Navigation Inn	LBE; LVRPA, Navigation Inn	Further study required	
CHARACTER AREA 23				
✦ Development	Implement scheme to upgrade area surrounding Ponders End Lock including redevelopment of Columbia Wharf	LBE; LVRPA; BW; LWP	Further study required	
CHARACTER AREA 24				
✦ Landscape Management	Manage existing vegetation along access ramp to help mitigate visual impact of car park	LBE; LVRPA	£500/year	

Area	Recommendations for Environmental Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 26A/B				
✦ Landscape Management	Cut back fallen vegetation and underplant existing woodland belt to maintain substantial landscape buffer strip on offside	LBE; LVRPA		
	Manage hedgerow to rear of towing path including cutting to maintain current height and gapping up	LBE; LVRPA, TW	£3000/year	
	Implement management regime to offside vegetation	LBE, LVRPA		
✦ Public Art	Opportunity to install marker/reference posts to reservoir embankments	LBE; LVRPA; TW	£2500	
CHARACTER AREA 27A/B				
✦ Landscape Management	Manage existing vegetation to the offside	LBE; LVRPA	£500/year	
CHARACTER AREA 28				
✦ Landscape Proposals	Undertake screen planting along boundary of Ushers Yard	LBE; LVRPA; Landowner	£500	
✦ Development	Undertake improvements to Lock Cottage and curtilage	LBE; LVRPA; BW; LWP	Further study required	
CHARACTER AREA 29A/B				
✦ Landscape Proposals	Undertake tree and shrub planting to help mitigate the visual impact of the fisherman's car park	LBE, LVRPA; BW; Anglers Club	£300 excl. maintenance	
✦ Landscape Management	Manage vegetation on the offside to prevent encroachment and siltation of the navigation	LBE; LVRPA; EA; BW	£1500/year	
CHARACTER AREA 30				
✦ Landscape Proposals	Interplant existing tree and shrub belt along western bank of navigation to help mitigate the visual impact of the Lee Park Way bridge and London Waste Ltd.	LBE; LVRPA, London Waste	£1000 excl maintenance	
✦ Landscape Restoration	Restoration plan required for vacant land to the east of the navigation eg implementation of an urban forestry scheme	LBE; LVRPA	Further study required	
✦ Public Art	Opportunity to enhance existing gantries	LBE; LVRPA; Service providers	£5,000	
CHARACTER AREA 31				
✦ Landscape Proposals	Landscape scheme required to link towing path with road access and area beneath North Circular Road	LBE; LVRPA; HA	Further study required	
✦ Development	Relocate scrapyard and develop land to link with public open space beyond	LBE; LVRPA; Landowner, LWP	Further study required	
CHARACTER AREA 32				
✦ Landscape Proposals	Develop triangles either side of the navigation as pocket parks	LBE; LVRPA; Landowner; LWP	£6000	

8.3.2 Recommendations for Boundary Improvements

Area	Recommendations for Boundary Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 3				
✦ Long Term Moorings	Encourage boaters to tidy up the environs on the offside and improve boundary treatments to the long term moorings	LBE; LVRPA; IWA; Boaters	-	
CHARACTER AREA 7				
✦ Ordnance Road	Undertake boundary/frontage improvements along Ordnance Road	LBE; LVRPA; Businesses; LWP	Further study required	
CHARACTER AREA 8				
✦ Retaining Wall	Replace existing retaining wall with more attractive structure eg a wall constructed of railway sleepers	LBE; LVRPA; Businesses	£3000	
CHARACTER AREA 11				
✦ Landscape Buffer	Landscape buffer to screen Enfield Energy site. Buffer to consist of a densely planted embankment concealing a security fence	LBE, LVRPA; Energy Site	£6500	
CHARACTER AREA 12				
✦ Landscape Buffer	Establish landscape buffer between navigation and energy centre. Site the security fence within the buffer zone to reduce its visual impact	LBE, LVRPA; Energy Centre	£6500	
CHARACTER AREA 13				
✦ Landscape Buffer	Establish landscape buffer between navigation and energy centre. Site the security fence within the buffer zone to reduce its visual impact	LBE; LVRPA; Energy Centre	£1500	
CHARACTER AREA 14				
✦ Boundary Hedge	Extend existing hedgerow to the rear of the towing path to enclose pastures and mitigate visual impact of the pylons	LBE, LVRPA; TW, National Grid	£1500	
CHARACTER AREA 15				
✦ Leeside Business Centre	Remove containers, barbed wire and security fences to help improve frontage of Business Centre	LBE; LVRPA, Landowner	£2000	
✦ Hedgerow	Plant boundary hedge to define bend in navigation, offer a succession of views and screen concrete fence and pylon bases	LBE, LVRPA; Landowner; National Grid	£1000	
CHARACTER AREA 16				
✦ Boundary Hedge	Gap up hedgerow to rear of towing path to help define meanders and hide barbed wire fence	LBE, LVRPA	£400	
✦ Security Fencing	Rationalise security fencing to adjacent industrial premises on offside	LBE; LVRPA, Landowner	£7000	

Area	Recommendations for Boundary Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 17				
✦ Boundary Hedge	Continue hedgeline to rear of towing path to help reduce the visual impact of pylons, embankment and fenceline	LBE, LVRPA; TW; BW	£2500	
CHARACTER AREA 18				
✦ Boundary Hedge	Plant hedgerow to the rear of the towing path to accentuate the bends in the navigation	LBE; LVRPA; TW	£1200	
CHARACTER AREA 19				
✦ Boundary Hedge	Plant hedgerow to the rear of the towing path in preference to the existing barbed wire fence	LBE; LVRPA; TW; BW	£1800	
CHARACTER AREA 20				
✦ Boundary Hedge	Continue existing hedgeline to the rear of the towing path, in a southerly direction	LBE; LVRPA; TW; BW	£2000	
✦ Frontage	Repair works required to existing transit shed	LBE; LVRPA		
	Frontage improvements required along the waterside edge of the industrial development	LBE; LVRPA; Landowner	Further study required	
CHARACTER AREA 21				
✦ Boundary Hedge	Gap up existing hedgerow to rear of towing path	LBE; LVRPA; TW; BW	£400	
✦ Industrial Units	Undertake boundary improvements to industrial units on the offside including clearance of rubbish skips.	LBE, LVRPA; Landowner	Further study required	
CHARACTER AREA 22				
✦ Boundary Hedge	Gap up hedgerow to rear of towing path	LBE, LVRPA; TW, BW	£850	
CHARACTER AREA 23				
✦ Boundary Hedge	Gap up hedgerow to rear of towing path	LBE, LVRPA; TW	£400	
✦ Columbia Wharf	Undertake frontage improvements to Columbia Wharf retaining the existing crane	LBE, LVRPA, Tenant, BW	Further study required	
CHARACTER AREA 24				
✦ Ford Building	Opportunity for enhancing frontage and terrace to Ford Building	LBE; LVRPA, Ford	£15000	
CHARACTER AREA 25				
✦ Boundary Hedge	Undertake hedgerow planting to rear of towing path and concrete palisade fence	LBE; LVRPA, TW; BW	£1500	
✦ Industrial Units	Create a visual link between the navigation and adjacent industrial developments through frontage improvements to older style industrial premises	LBE; LVRPA; Landowner	Further study required	

Area	Recommendations for Boundary Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 26				
✦ Landscape Proposals	Gap up existing hedgerow to rear of towing path	LBE; LVRPA; TW; BW	£1000	
CHARACTER AREA 27				
✦ Boundary Hedge	Gap up boundary hedge to rear of towing path	LBE; LVRPA; TW; BW	£400	
CHARACTER AREA 29				
✦ Boundary Hedge	Establish hedgerow to rear of towing path to screen concrete fence and lesson impact of pylons	LBE; LVRPA; TW; BW	£2500	
CHARACTER AREA 32				
✦ Industrial Frontages	Implement boundary improvements to waterside frontages of industrial developments	LBE; LVRPA; Landowners; Local business community	Further study required	

8.3.3 Recommendations for Waterway Infrastructure Improvements

Area	Recommendations for Waterway Infrastructure Improvements	Potential Partners	Anticipated Cost	Priority
CHARACTER AREA 9 ✦ Bio Engineering	Consider bio engineering solution to soften bank protection where piling has become weakened and requires replacement	LBE; LVRPA; EA; BW, LWP	£5000	
CHARACTER AREA 10 ✦ Bio Engineering	Consider bio engineering solution to soften bank protection where piling has become weakened and requires replacement	LBE; LVRPA; EA; BW; LWP	£45,000	
CHARACTER AREA 18 ✦ Bio Engineering	Undertake repairs to the waterway wall using bio engineering solutions to help establish marginal and aquatic vegetation	LBE; LVRPA; EA; BW; LWP	£22,000	
CHARACTER AREA 21 ✦ Overflow Channel	Opportunity to re-profile existing overflow channel for habitat enhancement and visual interest	LBE; LVRPA; EA; LWP	£7500	
CHARACTER AREA 22 ✦ Overflow Channel	Opportunity to create ecological area in association with re-profiled overflow channel	LBE, LVRPA, EA; LWP	£22,000	
CHARACTER AREA 25 ✦ Overflow Channel	Opportunity to re-profile existing overflow channel for habitat enhancement and visual interest	LBE; LVRPA; EA; LWP	£7500	
CHARACTER AREA 32 ✦ Bio Engineering	Opportunities for bio engineering solutions at toe of spoil heap embankments	LBE; LVRPA; Landowner, BW; LWP	£20,000	

8.3.4 Recommendations for Access and Linkage Improvements

Area	Recommendations for Access and Linkage Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 1				
✦ Interpretation	Improve access to Rammey Marsh and install interpretative information at entrance	LBE; LVRPA	£2500	
CHARACTER AREA 2				
✦ Surfacing	Improve surfacing including the reinstatement of lock quadrants	LBE, LVRPA; BW	£5000	
CHARACTER AREA	Improve surfacing to access track particularly to the eastern side of the bridge leading to the Royal Small Arms Angling Club	LBE; LVRPA; Angling club	£3000	
CHARACTER AREA 4				
✦ Linkages	Consider reinstating the bridge to provide a pedestrian link across the river to the wider landscape of the Lee Valley Park	LBE, LVRPA; EA	£40,000	
✦ Signage	Introduce signage and interpretation markers to connect into the existing paths on Rammey Marsh	LBE; LVRPA	£2500	
CHARACTER AREA 6				
✦ Signage	Develop signage and interpretation to highlight routes and linkages within the marsh and the new development on the Royal Small Arms factory site	LBE; LVRPA; LWP	£2500	
CHARACTER AREA 8				
✦ Railings	Rationalise railings on approach to bridge	LBE	£2500	
✦ Surface	Make good towing path surface on approach to bridge	LBE; LVRPA	£2000	
CHARACTER AREA 10				
✦ Signage	Install signage or interpretation to highlight pedestrian route across footbridge to Brimsdown	LBE; LVRPA	£750	
✦ Linkages	Improve design and material construction of steps up to bridge	LBE, LVRPA, EA	£1500	
CHARACTER AREA 17				
✦ Access	Improve access to riverside walk via the construction of a pedestrian bridge to link with the towing path or by extending the walk southwards over Mossops Creek	LBE; LVRPA; EA, BW	£40,000	
CHARACTER AREA 21				
✦ Access	Investigate possibility of public access to South Marsh. The re-profiled overflow channel will act as a moat preventing unauthorised access to the reservoirs	LBE, LVRPA, EA	Further study required	
CHARACTER AREA 22				
✦ Surfacing	Reinstate lock quadrants at Ponders End Lock using traditional materials	LBE; LVRPA; BW	£4500	
✦ Access	Opportunity to develop vacant land to the east of Ponders End Lock and enhance ecological value and species diversity	LBE; LVRPA; LWP	Further study required	

Area	Recommendations for Access and Linkage Improvements	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 28				
✦ Access	Implement scheme to rationalise parking at entrance to access road	LBE; LVRPA; LWP	£3000	
✦ Surfacing	Reinstate lock quadrants using traditional materials	LBE; LVRPA; BW	£4500	
CHARACTER AREA 31				
✦ Access	Paths should be rationalised leading up to road junction	LBE, LVRPA	£3000	
	Improve access to open space to the west	LBE, LVRPA	Further study required	
CHARACTER AREA 32				
✦ Access	Implement landscape proposals to visually separate towing path from adjacent vehicular routes OR consider proposals for re routing towing path to the offside	LBE; LVRPA; LWP; BW	Further study required	

8.3.5 Recommendations for Water Related Recreation

Area	Recommendations for Water Related Recreation	Potential Partners	Approximate Cost	Priority
CHARACTER AREA 3				
✦ Angling	Cut back waterside vegetation and install fishing pegs in consultation with anglers	LBE; LVRPA; Anglers Association; BW	£450.00	
CHARACTER AREA 9				
✦ Moorings	Establish new moorings in association with the dry dock (LVRPA would be opposed to residential moorings :. clarification of type of moorings is needed)	LBE; LVRPA; IWA; LWP	£27,000	
CHARACTER AREA 15				
✦ Boat Hire	Redevelop the existing Millmarsh Lane Boathouse as a boat activity centre with associated café. A new bridge link over the navigation to the towing path could be considered as part of a green commuter route	LBE; LVRPA; Landowner; LWP	Further study required	
CHARACTER AREA 22				
✦ Moorings	Establish visitor moorings in association with the Navigation Inn	LBE; LVRPA; Navigation Inn; LWP	£10,000	
✦ Boaters Facilities	Consider the replacement and relocation of the existing Columbia Wharf sanitary station to this location as part of the redevelopment of this site	LBE; LVRPA; BW; LWP	£60,000	
CHARACTER AREA 23	(LVRPA comets re: suitability of these uses still apply)			
✦ Boaters Facilities	Consider relocating the existing Columbia Wharf sanitary station to the Navigation Inn development site	LBE; LVRPA; Navigation Inn; BW; LWP	£60,000	
✦ Boating Activity	Proposed redevelopment of Thames Water owned land as eg fitness centre for leisure activity with associated rowing and canoeing activities. An assessment of the suitability of the waterspace for this purpose is required	LBE; LVRPA; TW	Further study required	
CHARACTER AREA 24				
✦ Marina	Produce feasibility study and masterplan for South Island Marina to investigate water related development opportunities.	LBE; LVRPA; Landowner; BW; LWP	Further study required	
✦ Sanitary Facilities	Investigate possibility of providing sanitary facilities on site with access for passing boaters	LBE; LVRPA; IWA; BW	£60,000	
CHARACTER AREA 31	(LVRPA previous concerns about the justification for this development still apply)			
✦ Boating Activity	Proposed redevelopment of the land at Deephams Wharf as a high profile rowing club	LBE; LVRPA; Landowner	Further study required	
CHARACTER AREA 32B	(LVRPA previous comets about long term moorings still apply).			
✦ Long Term Moorings	Possible long term moorings in association with the Leeside Road redevelopment site	LBE; LVRPA; Landowner; BW; LWP	£62,000	

8.4 External Funding Opportunities for Enfield Area

Type	Fund/opportunity: (* indicates limited geographical availability)	Focus of programme:	Assessment/Comment:	Potential for Enfield area
Lottery funds	Heritage Lottery Fund	Number of different categories focusing on historic structures, education, access, natural environments. Separate capital and revenue programmes. Also Townscape Heritage Initiative, which provides part funding for grant schemes aimed at assisting private sector.	£250 m per annum. High level of competition for funds. Up to 75% grant rate. Recently devolved organisation, now with regional offices and committees. Number of successful BW bids. Lengthy application process Applications over £500,000 go through two stage process. Bids for over £5 million now face twice yearly competitive bidding process Application forms available from HLF website.	May be suitable for enhancements to historic lock sites, educational projects and access improvements.
	New Opportunities Fund	Health (exercise) activities, education, out-of-school activities, environmental works, inclusion	Emerging lottery fund - new environment programme from 2000. £1.3bn currently allocated including £125m to Green Spaces programme. Health trails have been established using BW towpaths in couple of locations.	Green Spaces programme may be applicable, depending on what Award Partners or Umbrella Schemes are selected.
European funds	ERDF *	Job creation, tourism, transport, community economic development.	Only available in Objective 1 and 2 areas. New Programmes and eligible areas from 2000 - 2006. Specific geographical availability for disadvantaged areas. Usual maximum grant 50% Administered by Regional Government Offices or Secretariats.	New Objective 2 Programme will be applicable to certain wards in Enfield, including Enfield Lock and Ponders End. First bidding round likely to be end of 2000.
	ESF *	Training, reskilling	UK allocation approximately £5bn for the Programme period. Annual bidding rounds. Administered by Regional Government Offices or Secretariats.	May provide funding for training schemes that could be used to implement proposals, particularly in conjunction with New Deal Environmental Taskforce.
Local authorities	Capital/revenue programmes - local authorities money	Environmental improvements, job creation, leisure and recreation facilities, tourist facilities, conservation, etc	Key partners in SRB, EU and many other bids Funding normally allocated by Committees on an annual basis Some authorities operate local grant schemes for various different purposes Availability of funding varies from one authority to another. No standard way of applying - largely dependent on partnership or informal discussions	Local authority can fund proposed projects, subject to availability of finances and relevant committee approval.
		Maintenance agreements	Many local authorities fund maintenance agreements and are entering partnership agreements with BW for maintenance of towpaths in their area.	Suitable for maintenance proposals. Can be linked to waterway Biodiversity Action Plans.
	Section 106 agreements	To mitigate for impact of granting of planning permission	Section 106 agreements can be negotiated by planning authorities as part of planning applications Also known as 'planning gain' - Section 106 agreements provide funding or undertake works.	The London Boroughs can request these for related waterside enhancements where applications are made for planning permission.

Type	Fund/opportunity: (* indicates limited geographical availability)	Focus of programme:	Assessment/Comment:	Potential for Enfield area
	Local Transport Plans	Integrated transport improvements, including cycleways, footpaths, water transport	First draft plans produced in 1999. Funding of £700m from government will be allocated to transport authorities via these new Local Transport Plans. Administered by local highway authority. (Local authorities throughout England apart from London are required to produce Local Transport Plans setting out their proposals for delivering integrated transport over a five year period. The London Boroughs are not covered by the White Paper requirement to produce LTPs (the Mayor will have a duty to produce an integrated transport strategy for London and once this is in place, the London Boroughs will have to produce Local Implementation Plans).	Could provide funding for cycle paths, and footpath routes to work and school, where relevant
London Development Agency	**SRB Challenge ***	Partnership action to assist regeneration, community development, environmental improvement of deprived areas.	£800m for 1999-2002. Focused on deprived areas, plus coalfields and rural dev areas. Annual bidding rounds - currently Round 6. Bids made by partnerships of public, private and voluntary sectors. Can be geographically or theme focused	Dependent on existence of local SRB Partnerships and geographical coverage Requires further study or local knowledge London's Waterway Partnership can fund projects which improve strategic links and business boundaries. The Partnership has funds until 2004 although may bid for subsequent pan London programmes.
	Land and Property	Commercial and industrial schemes, job creation, derelict land re-use	£120m p a for English regions. Bidding by negotiation with former EP staff at new RDAs	Suitable for redevelopment proposals and derelict land proposals
Central Government Agencies	**New Deal***	New Deal contains a series of initiatives aimed at encouraging people into work, as well as the targeting of poorest communities with concentrations of unemployment and exclusion	**New Deal for Communities** programme - £800m for 1999-2002. Allocated to certain pathfinder authorities in initial phase. Other locations to be announced Partnership-led bids invited by DETR. **Welfare to Work/Environmental Taskforce** - training schemes often led by Groundwork or similar organisations Provides low cost labour for projects	Welfare to Work/Environmental Taskforce - training schemes could provide low cost labour for projects
	English Heritage	Protection of historic structures, conservation of buildings at risk. Funds repairs to structures at risk. Also operates **Heritage Economic Regeneration Scheme** - bids led by local authorities - provides funding for encouraging new commercial use of old buildings	£90m - £130m per annum in grants, mainly to Grade I and II* structures, SAMs and buildings at risk.	Either main grant programme or HERS may be applicable for finding new uses for redundant historic commercial buildings

Type	Fund/opportunity: (* indicates limited geographical availability)	Focus of programme:	Assessment/Comment:	Potential for Enfield area
	Environment Agency	Making a Difference Fund	Funding available for projects which will enhance the local environment. No set criteria, but local accessibility/biodiversity are important	Dialogue with EA required – could assist with Enfield waterway projects
	Countryside Agency	Access to countryside, rural diversification	£50m annual budget. Set up in 1999 on regional basis. Application by discussion with regional staff.	Conservation Agency keen to target green corridors which link town and country, and are promoting Greenways as safe accessible routes Dialogue needs to be established.
		Local Heritage Initiative - joint scheme with Heritage Lottery Fund for small scale heritage conservation and interpretation projects.	Applications through relevant regional office of Countryside Agency. £7m available	Available in sub-urban areas-edge of towns and cities Could help to promote locally important features of the Lee Valley Park.
	Ministry of Agriculture, Fisheries and Food	Conservation and enhancement of landscapes, features and habitats, improving access.	Countryside Stewardship Grant - approx budget £15m p.a. Applications through the relevant regional MAFF office.	Potentially suitable for many of the landscape proposals
	English Nature	Protection of species and habitats	Approx grant budget £1.5m p a. Applications	Suitable for projects improving nature reserves or rare species. Also implementation of Biodiversity Plans
	Forestry Commission	Woodland Grant Scheme and Farm Woodland Grant Scheme - funding for planting and management of forests and woodlands.	Standard application form from Forestry Commission. Grants of between £1000 and £1350 per hectare for new woodlands Funding recently enhanced by Government	Suitable for woodland planting projects; discussions recommended.
Quasi-public bodies	Groundwork *	Locally specific Trusts funded by DETR to help improve degraded and spoiled landscape and environment.	History of Groundworks undertaking projects in partnership with BW and waterway related organisations.	Groundworks have access to governmental and other funding for improving industrial sites, derelict land improvements, etc. Could implement many of the proposals in the corridor study.
Miscellaneous	Sustrans*	Cycleways	Awarded £42m of Millennium Commission funding to create national network of cycleways. Will cease in near future. Only applies to certain parts of the BW network.	Could provide funding for cycle paths, footpath routes to work and school, where relevant.
	Wildlife Trusts	Network of local trusts, responsible for managing nature reserves and SSSIs. National Wildlife Trusts manage Biffaward - Biffas landfill tax credit scheme.	Useful partners with access to landfill tax or other funding.	Suitable for implementing habitat or other wildlife enhancement projects. May provide funding and labour.

Type	Fund/opportunity: (* indicates limited geographical availability)	Focus of programme:	Assessment/Comment:	Potential for Enfield area
	Charitable Trusts	Wide range of charitable trusts with charitable purposes. Some have environmental, educational or heritage objectives	Total estimated giving by grant making trusts = £1.9 billion. Most trusts donate to charities, but not all	Wide range of Trusts, particularly in London. Funding may have to be directed through a charity such as The Waterways Trust
	Companies	Wide variety of objectives, but some companies donate to environmental projects.	Company giving is estimated to be worth over £200 million per annum. As with Charitable Trusts, many companies prefer to give to charities for tax reasons.	Company sponsorship, particularly larger local companies may be relevant to a large number of the proposals
Landfill tax credit scheme	Various landfill operators and associated distribution processes	Recycling, public amenities (parks, playgrounds, etc) environmental improvements and historic structures	Estimated £135m per year available Likely to exist at least until 2003. Competition increasing - now over 16,000 other registered Environmental Bodies. Projects need to be registered with Entrust and then secure funding from individual landfill operator or distributing body. Procedures vary from one operator to another Project must be within 10 miles of a landfill site. Detailed information on sites and site operators are available from BW.	Most of projects identified in the study could be suitable for landfill tax funding

8.5 Implementation

The action plans described above provides a wide range of opportunities that many organisations and individuals can subscribe to and benefit from. The aim is to promote the regeneration of the waterways corridor through Enfield as a leisure, tourism and community resource but not at the expense of the environment; rather to encourage environmental sustainability through a well balanced programme of change.

The success of the study will lie in its ability to attract funding and the use of the statutory planning system as a key delivery mechanism. In particular, its success will be judged on the way it is implemented and the delivery structure that is put in place to achieve this.

8.5.1 Delivery Structure

If the study is to be taken forward, possibly to form the basis of a single or more likely a number of funding bids, then a clear and integrated delivery mechanism will be required, where a lead body takes responsibility for the co-ordination and implementation of the total programme

In the short term, a number of steps are suggested to take the project forward

- Obtain the endorsement of all steering group partners to the study and commitment to use the action plans to influence statutory and corporate policies as well as business plans.
- Subject to the above, undertake public promotion and launch of the study including signing of a concordat agreement between partners.
- Carry out consultation with neighbouring authorities, particularly London Borough of Waltham Forest.
- Create a cross-authority funding bid team to review the study against most likely funding sources/partnerships and prepare a 3 year plan/proposal for a grant bid
- Simultaneously establish a cross-authority group to ensure that the Planning policy and development control framework for the initiative is in place.
- identify a pilot scheme from the study that can be developed as a 'model' for future change. (This may be quite small but will demonstrate action on the ground and generate confidence in the study).

8.5.2 Conclusion

The opportunities for regeneration and conservation along Enfield's navigation have been explored. A full selection of ideas has been included in Chapter 5, 7 and Appendix A and B but these should not be seen as an exhaustive list of opportunities

Other ideas will inevitably arise, even prompted by the publication of this study. The study particularly the waterside design guidelines contained in Chapter 6 can provide a framework against which such proposals can be tested and environmental loss and gain be measured alongside the need for leisure and transport development.

The study may also be the springboard for reviewing the future delivery of change within the corridor to achieve integration of thought and purpose across the partner organisations, supported by an externally funded Action Plan.

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